R.N.I. No. MAHENG/2012/45652

PLASTISCOPE

The Official Journal of the Organization of Plastics Processors of India

Volume No. 11 • Issue No. 2 • Mumbai • August 2022

FROM THE PRESIDENT's DESK

Mr. Mahendra Sanghvi

OPP

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Dear Members,

Greetings from Organization of Plastics Processors of India!

The Festive Season has begun with good tidings for the Plastic Industry – Inflation Reducing, Substantial Decrease in Crude Oil Price, Export Enquiries are on the upswing.

OPPI has been constantly following up with Ministry of Commerce, Finance, Department of Chemicals & Petrochemicals to make Production Linked Incentive applicable to Plastic Products. In fact, Shri Mansukh Mandaviya Ji, Hon'ble Ministry for Chemicals and Fertilizers had stated – "We can also bring PLI Scheme with relevant modification for the Plastics Recycling Industry of India".

A meeting on "Production Linked Incentive for Plastic Industry" was organized by Department of Chemicals & Petrochemicals on 22nd August 2022. We will keep you informed regarding the developments in this regard.

We had represented regarding difficulties being encountered by the Plastic Processors regarding faulty implementation of ban of Single Use Plastics. Our Representation has been forwarded by the Secretary – (Department of Chemicals & Petrochemicals) to the Secretary – Ministry of Environment, Forest and Climate Change. OPPI is making efforts to ensure that the members are not harassed by the authorities due to incomplete and incorrect understanding of Plastic Waste Management Rules pertaining to Single Use Plastics.

OPPI has also represented to Department of Chemicals & Petrochemicals and other Ministries regarding "Adverse Impact on the Plastic Processors due to BIS on Plastic Raw Materials." Our Representation has been forwarded by the Ministry of Commerce to Department of Chemicals & Petrochemicals for consideration and necessary action. We hope that our request will be approved by Department of Chemicals & Petrochemicals.

In this issue of Plastiscope there is a Section Titled "Run up to K 2022" I am certain that this information will be helpful to all OPPI members, who will be visiting K – 2022.

With Best Wishes,

Mahendra Sanghavi
President

Printed, Published and Edited by:
DEEPAK LAWALE on behalf of **ORGANIZATION OF PLASTICS PROCESSORS OF INDIA,** Printed at **DESIGN WORLD CREATIONS,** Unit No. 204, A-Wing, Suashish IT Park, Off. Dattapada Rd, Borivali East, Mumbai - 400 066 and Published from ORGANIZATION OF PLASTICS PROCESSORS OF INDIA, 404/405, Golden Chambers, New Link Road, Andheri (West), Mumbai 400 053.
Editor: **DEEPAK LAWALE**

OPP
Organization Of
Plastics Processors Of India

Seminar on -"Crucial Role of Maintenance in Plastic Processing Industry"
On Thursday 29th September 2022 at the Colonial Hall, The Club Mumbai, 197 D.N Nagar, Andheri (West), Mumbai 400053

Seminar Objectives:-

- Practices to achieve Zero breakdown
- Maintenance Cost Reduction
- Good Maintenance practices
- Reduction in servicing cost for Machinery Manufacturers
- Factors to be considered by designers of Processing Machines.

Participants shall include:-

Plant Heads, Design Engineers of Machinery; Operations and Maintenance In-Charge; Maintenance Engineers, Production Heads.

Participation Fees:

- Fees per participant: - Rs. 3000/- + GST @ 18%.
- Registration fee includes training documentation, lunch, tea/ coffee during the training.
- Payment is required with registration.

Group Registration:-

- 15% discount to OPPI and Members of the Partner Associations.
- If 3 or more delegates register from the same company, 10% discount will be applied.
- If 5 delegates register from the same company, 6th delegate registration is FREE.

PLEASE EMAIL TO secretarygeneral@oppindia.org;

Please Contact:-

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ICICI Bank

OPP
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Organization of Plastics Processors of India in Association with ICICI Bank Presents Webinar on-

"DIGITIZATION OF THE EXPORT BUSINESS – TRADE EMERGE"

16th September 2022
3.00 PM Onwards (IST)

SPEAKER
MS. SAKSHI CHAUHAN
Product Manager, ICICI Bank

SPEAKER
MR. SHUBHAM NARKHEDE
Product Manager, ICICI Bank

THIS SESSION WILL COVER:-

- Digitization of the export life cycle from regulations, licencing, finding buyers, verification of buyers, logistics partners, banking & insurance services on single platform
- Digitization of all trade transactions through Super Application

FEES

The participation fees will be – **Rs. 500/-** + GST@18% per participant.

Kindly send your registration form on secretarygeneral@oppindia.org
Closer to the date we will email the link, Meeting ID and Password for joining the Webinar.

DEEPAK LAWALE, SECRETARY GENERAL
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CALENDAR FOR 2022- 2023

Organization of Plastics Processors of India

Vietnam Print Pack 2022
21st to 24th September 2022
Saigon Exhibition Center, Vietnam

Vietnam Plas 2022
23rd to 26th November 2022
Saigon Exhibition Center, Vietnam

Myanmar PlasPrintPack 2022
9th to12th December 2022Yangon Convention Center (YCC) Myanmar

IPF Bangladesh 2023
22nd to 25th February 2023
International Convention City Bashundhara

OMAN PLAST 2023
29th to 31st May 2023
Oman Convention & Exhibition Center

Hanoi Plas 2023
8th to11th June 2023
ICE, HANOI VIETNAM

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ORGANIZATION OF PLASTICS PROCESSORS OF INDIA

37 YEARS OF SERVICES TO PLASTICS INDUSTRY

SERVICES OFFERED BY OPPI

Deepak Lawale, Secretary General
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OPP

Organization Of
Plastics Processors Of India

ADVERTISEMENT IN OPPI DIRECTORY 2023

With the fast changing business environment and the growing competitive world, it becomes important for all those connected with the Plastics Industry to increase the visibility of their activities.

Organization of Plastics Processors of India will be publishing Membership Directory 2023. The directory will be distributed to all OPPI members, Plastic Associations in India, Major Chambers of Commerce and Industry/Industry Associations in India and abroad, Trade Promotion Organizations, Financial Institutions and Diplomatic Missions.

Unique features associated with OPPI Directory 2023:-

- OPPI Directory distributed in all International exhibitions promoted by OPPI. Advertisers get noticed by the importers in various countries.
- Advertisement in OPPI Directory gives wide publicity to products and services of advertising company.
- MNCs setting shop in India refer to OPPI Directory for outsourcing their requirement of plastic products from India.
- Multi-national Retail Chains refer to OPPI Directory for outsourcing their requirements of plastics based goods; flexible packaging material etc.

Advertisement tariff, mechanical data pertaining to printing of the advertisements, terms and conditions and advertisement booking form are attached herewith.

Please fill up the advertisement booking form attached herewith and email its scanned copy to secretarygeneral@oppindia.org

Please fill up the Registration Form attached herewith and send to:-

Secretary General, ORGANIZATION OF PLASTICS PROCESSORS OF INDIA

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ORGANIZATION OF PLASTICS PROCESSORS OF INDIA

OPPI DIRECTORY – 2023

TARIFF FOR ADVERTISEMENT

Sr. No.	Position	Indian Companies (Rs.)	Overseas Companies (US $)
(II)	REGULAR PAGES		
1	Full Page Coloured	Rs.18,000/-	US$ 400
2	Full Page B/W	Rs.12,000/-	US$ 250
3	Book Marks (4. Nos.)	Rs. 30,000/-	US $ 1000
4	Multi-Coloured Wrapper Strip (44 cms. length X 10 cms. Width	Rs. 20,000/-	US$ 640

GST @ 18% will be applicable

GST Registration No. 27AAATO0364M1ZD

Mechanical Data

PRINT AREA
Overall Size : 205 mm. (width) X 280 mm. (height)
Print Area : 185 mm. X 265 mm.
CD ROM HTML Format

For The Front Cover Only
Print Area:-205 mm. (width) X 235 mm. (height)

TERMS & CONDITIONS

1. Artwork for the advertisement should be in JPG/ Coral Draw/ Pdf format.
2. Art work should be sent to "Organization of Plastics Processors of India" at the earliest.
3. Advertisement charges once paid will not be refunded.
4. "Organization of Plastics Processors of India" reserves the right to accept or reject the advertisement.
5. All Government taxes as applicable are chargeable extra.
6. Advertisers in the Directory may please note that the advertisement can be incorporated in the CD Directory also, provided we get the matter on HTML FORMAT, or any other "Window Picture". Size of advertisement will be restricted to the size of the advertisement given in the paper Edition of directory.
7. The payment for Advertisement can be made directly in our Bank Account.
   Our Bank Details are as given below:-

BENEFICIARY ACCOUNT NAME	**ORGANIZATION OF PLASTICS PROCESSORS OF INDIA**
Bank Name	**AXIS BANK LTD.**
Branch Name	**SPRINGFIELDS BRANCH, FIRST FLOOR, GREENVILLE CHS LTD, OPP. SAMARTH VIBHA, LOKHANDWALA COMPLEX, ANDHERI (W), MUMBAI- 400053.**
Account Number	**415010100006330**
I.F.S.C Code for the Branch	**UTIB0000415**
SWIFT Code	**AXISINBB415**

NEWS FROM INDIA

Govt. to Set up Control Rooms to Enforce Single-Use Plastic Ban: Minister

WITH THE ban on single - use plastic coming into force on July 1, the government will be setting up control rooms at national and state levels to ensure its effective enforcement, Environment, Forests and Climate Change Minister Shri Bhupender Yadav said.

Apart from the control rooms, which will be supervised by the Central Pollution Control Board, special enforcement teams will be formed to check illegal manufacture, import, stocking, distribution, sale and use of the 12 banned single - use plastic items that was announced by the ministry last year. States and Union Territories have been asked to set up border check points to stop inter - state movement of any banned single - use plastic item, said CPCB officials.

The list of banned items include ear buds with plastic sticks, plastic sticks for balloons, plastic flags, candy sticks, ice - cream sticks, polystyrene (thermocol) for decoration, plastic plates, cups, glasses, cutlery such as forks, spoons, knives, straw, trays, wrapping or packing films around sweet boxes, invitation cards, cigarette packets, plastic or PVC banners less than 100 micron, stirrers.

"The items have been chosen on the basis of three criteria – their low utility, high littering potential and availability of alternative materials. We know that the manufacturers of these banned items have already shifted or are in the process of shifting, and notices had been sent out by the CPCB last year to these companies alerting them of the ban and to begin the process. We have given manufacturers plenty of time for preparation – 11 months – before the ban was to come into force. We believe that we have their support and cooperation," said Yadav at an informal press briefing.

According to the CPCB, plastic waste generation in 2020 - 21 was 41,26,997 tonnes, while per capita waste generation was 3 kg per annum. There are 683 units manufacturing single - use plastic with a cumulative capacity of 2.44 lakh tonnes per annum. The CPCB has already revoked or modified the consent of 433 units.

The CPCB further said that characterization of plastic waste in 18 cities has found that the percentage of single - use plastic in total plastic waste is between 10% and 35 %.

The use of these items by consumers is also banned. But the minister has said, that penalties are unlikely to be transferred to the consumer as, "If the banned item simply does not exist in the market, then it can't be used."

Yadav said the government has over the past year focused on encouraging industry and MSMEs to come up with alternatives to plastic, including biodegradable plastic and compostable plastic.

The government has awarded works to seven startups developing solutions, including bio - degradable packaging material made from crop stubble waste among others.

Till June this year, the CPCB has already awarded certificates to 194 plants for production of compostable plastic with another

61 applications in process. The certified plants have a capacity to produce 3 lakh tonnes of compostable plastic per annum.

Manali Petrochemicals Inks Commercial Agreement with UK-Based Econic Technologies to Manufacture Eco-Friendly Polyols

Manali Petrochemicals (MPL), an integrated manufacturer of polyols and a part of the AM International group, has announced the execution of the long - form agreement with UK-based based Econic Technologies. Last year, the companies entered into an MoU to introduce more environment - friendly, Co2 - containing polyols into the global $28 billion global polyols market.

The signing of the long - form sets the stage for the initiation of the MPL-Econic partnership. It will comprise a two-year demo scale -up at the 1,300 ltr reactor at the MPL plant 1. The following three years will be spent on industrial scale - up of the technology of MPL's 12,000+ reactors and commercialisation of Co2 - containing polyols by the company.

Ashwin Muthiah, chairman, MPL and founder - chairman, AM International Holdings, said, "Science and innovation will play a key role in ensuring that our manufacturing plants implement eco - friendly and cost - efficient technology. MPL's partnership with Econic Technologies brings significant R&D-led improvements to the production process. Alongside delivering a greener product to our customers, it reaffirms our ESG commitment towards a carbon neutral planet."

Shared responsibilities toward a common vision

The MPL-Econic partnership, a one-of-its-kind in India, offers excellent upside across MPL's business value chain. Econic's patented catalyst and process technology incorporates waste Co2 as a feedstock to manufacture polyols. In an increasingly eco - conscientious world, the green polyols strategy will also lend a competitive edge to the company's prospects in the USD 28 billion global polyols market.

Keith Wiggins, CEO of Econic Technologies, said, "We appreciate this next development in our partnership with MPL and the opportunity to work with them as a pioneering licensee of Econic's technology in one of the world's biggest and fastest growing geographies. It's an exciting time to be implementing solutions that meet consumer demand for more sustainable products made using waste Co2."

In the initial phase, the MPL and Econic teams will collaborate on the design of retrofit equipment required, engineering, procurement and construction of retrofit, demo plant commissioning and operation. In the industrial scale phase, the companies will work together to prepare for front-end engineering design provision, FEED and EPC work, industrial plant commissioning and operation. To ensure the project's success, the companies will form a joint decision committee to oversee all the decision-making

Muthukrishnan Ravi, MD, Manali Petrochemicals and CEO – petrochemicals, AM International Holdings, said, "At MPL, we are continuously introducing sustainable technologies in our operations. Through this, we envision just not financial saving but serving our customers with eco - friendly solutions. The collaboration with Econic will add further impetus to our efforts to build a cleaner future by using alternate energy resources."

Polyols are the building block for polyurethanes. They are used to produce flexible and rigid foams, elastomers, adhesives, sealants and coating, which find application across a wide range of necessary everyday products, from mattresses and automotive interiors, building insulation and refrigeration to sports and footwear, protective coatings and industrial products. Econic's unique catalyst technology incorporates tailored amounts of CO2 into polyols to meet the exact requirements for material properties, such as strength, water resistance, flexibility and processability. Thus, the polyurethanes made with catalyst technology will be customised to suit MPL's wide range of customer requirements.

Vacmet India Increases BOPP Films Capacity To 120,000 MTA

Vacmet India has recently commissioned a third BOPP film line at company's existing production facility in Dhar, near Indore. It is a 10.4 metres wide line having a capacity of 55,000 MT per annum. With the commissioning of this line, company's BOPP film capacity

has reached 1,20,000 MT per annum. With the capacity addition, the group shall be able to offer faster deliveries along with an enlarged product portfolio.

The new line is a three - layer state of the art fully automated 10.4 metres line from Bruckner with which can produce films from 12- 60 microns. The high-speed line with automated changeovers and automatic consumption of waste shall not just help the company in improving overall efficiencies when running various product mixes but will also considerably reduce waste

S C Kapoor, president - Operations at Vacmet India said, “This capacity expansion is expected to benefit the industry in terms of meeting the enhanced demand for BOPP films in general. It is going further boost the confidence of brand owners trying to shift to BOPP, owing to its ease of recyclability with the same family structures. The film line also supports thicker microns which is in line with the government's waste management regulations recommending the industry to use films which weigh more than 50 microns.”

In addition to the BOPP line, Vacmet also commissioned its fourth polyester film line in India some time back. The new line also based out of the same facility in Dhar is an 8.7 metres wide line having a production capacity of 36,000 MT per annum. With these additions, company's total installed capacity for both BOPP and BOPET put together now stands at 2,50,000 MTA.

Vacmet India is one of the world's leading producers of Flexible Packaging Films and Metalized Paper & Board headquartered out of India.

Rajasthan Petrochemicals Complex to Have Spin-Offs

Work on the Rajasthan Petrochemicals complex is going on in full swing, with more than 50 per cent of the job having been done, according to state government officials. The state government and Hindustan Petroleum Corporation Ltd (HPCL) have entered into a joint venture for setting up a refinery - cum - petrochemicals complex of 9 million tonnes a year in Pachpadra, Barmer district. The project cost is estimated at more than Rs 43,000 crore and the equity share of HPCL is 74 per cent and that of the Rajasthan Government 26 per cent.

“All the 13 mechanical units of the refinery are slated to be completed by March 2024. For this the road map has been prepared,” an official said.

Additional Chief Secretary (Mines and Petroleum) Subodh Agarwal said the officers of the refinery had said four of the 13 mechanical units would be completed by June next year and three within three months of that. He said over 17,000 people were working on works related to the refinery. So far, Rs 18,900 crore has been spent.

In view of the state government, the refinery has the potential to become an anchor unit for developing downstream and other service - sector industries in and around the region. Petrochemicals is an "enabler" industry playing a vital role in the functioning of key sectors.

Meghmani Finechem Commissions 30,000 TPA CPVC Resin Plant At Dahej

Leading chemical manufacturer Meghmani Finechem Limited (MFL) today announced the successful commissioning of Chlorinated Polyvinyl Chloride Resin (CPVC Resin) Plant at Dahej in Gujarat.

The newly - commissioned facility with a production capacity of 30,000 tonnes per annum (TPA) is the largest of its kind in India. Despite a challenging external environment, the plant has been commissioned on time and without any cost overrun, which is a testimony of the company's strong project execution skills.

Commenting on the commissioning of CPVC Resin plant, Maulik Patel, Chairman and Managing Director, MFL said, “I am very happy to announce that we have commissioned India's largest CPVC resin plant of 30,000 TPA. I would like to congratulate our project team for commissioning the plant on committed timelines and within the estimated capex limit.

Production of CPVC resin has started and it is under approval process with various customers. We estimate that it will take around 3 months' time for approval and stabilisation

process. We expect that volume of CPVC resin should pick from Q3FY22 onwards and should reach optimum capacity utilisation by Q1FY24.

On commissioning of CPVC resin plant, we are moving in the direction of being a multi-product company and this will increase revenue contribution from the Derivative and Specialty Chemical segment. Also, this will further strengthen our fully integrated complex, as part of the raw material for CPVC resin will be available within the plant itself."

In India, CPVC resin demand is around 1,40,000 tonnes per annum (TPA) and it is expected to grow by around 13% CAGR over the next five years. Approximately 95% of the CPVC resin demand of India is met through imports. MFL's entry into this product is in line with the Central Government's initiative of Aatmanirbhar Bharat and Make in India. This will reduce the dependence of CPVC resin consumer on imports thereby helping the country save its foreign exchange reserves.

CPVC resin is used in manufacturing CPVC pipes and fittings. CPVC pipe has high heat resistance and chemical resistance properties. Considering its features, CPVC is widely used for domestic (households) and industrial purposes.

CPVC resin is a high value product. Considering the current prices of CPVC resin, MFL expects asset turnover ratio to be above 2.0x, which will improve the company's absolute EBITDA and will end up providing higher ROCE (Return on Capital Employed), ultimately creating value for the shareholders.

Gujarat High Court Directs CBIC to Refund IGST on Ocean Freight within Six Weeks

The Gujarat High court has directed the Central Board of Indirect Taxes and Customs to grant refund of goods and services tax paid on ocean freight within six weeks with interest, in a relief for importers. The decision comes after the levy of GST on ocean freight was struck down by the Supreme Court in case of Mohit Minerals.

"It is directed that if any IGST amount is collected, the same shall be refunded within six weeks along with statutory rate of interest," Justice NV Anjaria said, while admitting the petition by Louis Dreyfus Company India Pvt Ltd vs Union of India.

The finance ministry had sought a legal opinion over the Supreme Court Order and legal review is still under process. Only when the ministry will commence the legal review, the tax department can initiate the process of refunds. Without the direction, they cannot process claims, which have reached over Rs 1,000 crore.

"We are yet to get a direction. We expect a clarity in the next GST Council meeting or before that," a senior official told ET. Earlier in May this year, the Supreme Court held that if IGST is paid on freight which is included in the value of imported goods, levying tax again as a supply of service, was illegal.

"The judgment is likely to provide relief to sectors where GST paid is either a cost or gets accumulated on account of inverted duty structure viz., alcohol, power, petroleum, fertiliser, textile, etc, " Saurabh Agarwal, Tax Partner, EY India said.

"Having paid IGST (Integrated Goods & Service Tax) on the amount of freight which is included in the value of imported goods, the impugned notifications levying tax again as a supply of service, without any express sanction by the statute, are illegal and and liable to be struck down," the Supreme Court said.

(Source: The Economic Times, Mumbai – 30th July 2022)

China's Supply Chain Woes May Divert Export Production to India, says Fitch

"Further supply-chain disruption in China from Covid - 19 restrictions could accelerate the diversion of export production from China, for example, to India and southeast Asia," Fitch said in a report titled 'Apac Exposure to Slower China Growth'. This could create longer-term credit upside for some Apac (Asia Pacific) countries, it said.

Fitch noted that financial headroom was limited in India but felt that given the country's low export exposure to China, things could be fine. "This suggests that its direct vulnerability to weaker Chinese growth is relatively modest, although India could still be affected indirectly, for example, through higher financing costs

if international investor risk aversion increases as a result of a weaker growth outlook for China," it said.

Around the APAC region, the Covid-19 led economic shows in China could have negative economic effects as they are the biggest export market for most countries in the region. In addition, they also happen to be a crucial supplier of intermediate products whose availability could be interrupted, affecting regional exports.

"A significant slowdown in China would also represent the third major external shock in the last few years for Apac sovereigns, following the Covid-19 pandemic and the fallout from the Russia-Ukraine war," Fitch said while cautioning that successive shocks could further erode fiscal space and exacerbate credit risks in frontier markets, potentially eroding their political and institutional stability.

(Source: The Economic Times, Mumbai)

EU To Put an End to Duty Benefits For 1,800 Goods

India's exports of plastics, stone, machinery and mechanical appliances worth $7.9 billion to the EU will no longer be eligible for low or zero-duty concessions from January, 2023 as the bloc would withdraw these benefits under the Generalised Tariff Preference Scheme (GSP).

Exports of almost 1,800 products of plastics, fur, stone, plaster, cement, asbestos, and machinery and mechanical appliances will cease to get the benefits and make Indian goods more expensive with exporters paying 6.5% duty for certain plastic products where the tariff is nil at present. Their exports to the EU in 2021 were $7.9 billion.

"In these four sectors, the EU is a major export destination for India and holds around 22.58% share of India's total exports," said Ajay Sahai, director general, Federation of Indian Export Organisations.

Textiles, vehicles, chemicals and some leather products got excluded from the EU GSP programme in 2014 after their exports crossed the specified threshold and haven't enjoyed the preferential treatment since then.

On June 29, the EU announced the withdrawal of GSP benefits for India in the four sectors from January 1, 2023 along with those for Kenya and Indonesia.

The current EU GSP system will expire at the end of 2023. Going ahead, for 2024-2034, the EU aims at a more effective system which delivers benefits to where they are needed and time toughens the sustainable development criteria applicable to developing countries.

The withdrawal of GSP benefits by the EU countries for certain sectors will impact the export of these commodities to EU; one more reason for India to move fast on the India-EU FTA fast," said Bipin Sapra, partner at EY India.

Exporters have already raised the issue with the commerce and industry ministry as GSP is the only route to get tariff concessions as the India-EU free trade agreement is yet to be formalised.

"This will severely impact our competitiveness as other GSP and GSP plus countries will continue to enjoy tariff concessions for these sectors," said an industry representative.

As per an analysis done by FIEO, out of the total 16,309 EU tariff lines (products), 46.6% are eligible for tariff concessions under GSP. Around 23% of the products have zero duty.

(Source: The Economic Times – Thursday 11th August 2022)

Jaidayal Commissions its Fifth Convertex from W&H

Jaidayal Hitex along with its group of companies has been renowned for manufacturing, supplying and exporting a wide variety of packaging bags. They are also the first woven PP bag producers to innovate PP rice packaging in India, pioneering the bag design. The wide array of their products includes PP woven sacks, bags, fabric cloth and fabric which are used in packing food grains, cement etc. Jaidayal Hitex name is reckoned in the realms of manufacturing, supplying and exporting a wide – ranging variety of packaging bags. Earlier achieving a record production of woven PP block bottom bags, the company has no plans to stop at a benchmark and is continuously expanding in the woven segment with a rigorous appetite to fulfill the increasing demand for block bottom bags. With two coating lines from W&H the company now has five CONVERTEX from

W&H producing AD Protex block bottom bags. When it comes to choosing the latest machine for making block bottom bags the management decided to think of none other than CONVERTEX CL 140.

"We are very excited with the performance levels achieved by the AD CONVERTEX CL 140. The machine is developed using our vast experience and know - how developed over the years. We are glad that the machine is able to meet expectations of our customers and are thankful for their continued trust in W&H", said Mr. Anuj Sahni, General Manager Sales & Marketing, W&H India.

KL Two Platen Machine

KL success story dates back to 2015 when WINDSOR launched the first Real Two Platen Technology in India after acquisition of Italian giant ITALTECH. Ever since this, with an installation base of more than 300 machines, KL series machines add value to businesses.

KL has been synonymous by serving privileged customers in Automotive and White Goods industry. KL is also preferred in other plastic applications like Furniture, Material Handling, Industrial, Household & City Civic, PVC Fittings etc. due to smaller footprint, cost effectiveness and efficiency with minimal resource consumption.

The KL Two Platen machine series (available from 350T - 8,000T) has most advanced specifications in the world relating to the clamp and injection area. This immensely helps the customer reduce capital expenditure for their moulding requirements. The KL Two Platen machine series provide immense value - added features and flexibility to customers. Plethora of innovations embellish the KL machines.

- The free, suspended and short tie bars help in a smaller footprint.
- The tie bar regulation mechanism holds the tie bars straight and ensure longer service life.
- Use of the same casting for stationary and moving platen doubles the mould life.
- Use of special materials eliminate the demand for lubricants resulting in a lubrication - less clamp area thus enabling the machine to be always maintained clean.
- Efficient servo hydraulics used ensures lower demand on energy for effective part production.

To elaborate a crucial point, the patented synchronized movement of nuts significantly increase the machine reliability. Larger moulds can be used due to longer mould supports. The moving platen offers flexible movement for adjustment of mould parallelism as per mould requirements.

"Speed" is another industry demand! With KL series, faster machine operations are possible due to close loop clamp hydraulics and proportional valves. Advanced control system with a 15" touch panel offers flexibility for smooth and convenient machine operation and production control. With the R&D team closely monitoring the changing market dynamics, all these innovations are developed keeping in mind the current and future requirements of customers to run their moulding operations effectively and efficiently.

Attributes highlighted above significantly add to the low ROI, a parameter best used to truly assess the 'cost impact' of the KL machines. Increased productivity to the tune of 15 - 20% on one side and reduced energy consumptions by another 15 - 20% (in comparison to available solutions), only made the deal sweeter!

Thus, the best - in - class technology globally that the KL Series offers, has raised the bar of performance for injection moulding machines.

KL series was honored with 7th National Award for Technology Innovation in Plastic Processing Equipments by department of Chemicals & Petrochemicals, Govt. of India in 2017.

PLASTIC PRODUCTS

Bio - Based Polycarbonate Adopted for Suzuki Suv's Front Grille

Suzuki Motor Corp. has adopted Mitsubishi Chemical's Durabio bio - based polycarbonate as the grille material for its S - Cross compact SUV. Although Durabio had previously been applied to interior parts by Suzuki, the improved level of impact resistance and weather resistance has led to its current use for exterior applications. The S-Cross has been on the market since December 2021.

Made from the renewable plant-derived raw material isosorbide, Durabio is a bio - based engineering plastic with properties comparable to conventional engineering plastics, including impact, weather, and heat resistance.

Further, the plastic features excellent color development, enabling the realization of a sophisticated design with a gloss finish through colorant addition alone. The plastic requires neither painting nor coating, as its hard surface is scratch resistant, thereby reducing the generation of volatile organic compound (VOC) emissions during production.

Toyota Racing 3D Prints Hood Vents, Clamps, and More in Nylon

Polymer 3D - printing technology company Stratasys is now an official partner of Toyota Racing Development (TRD). The partnership will make its debut with 3D - printed production parts on the forthcoming Toyota GR86 for the GR Cup, a new single - make racing series sanctioned by SRO America.

“Additive manufacturing has allowed us to quickly iterate, design, and create parts for our race vehicles in a way that would have been far more expensive or labor intensive through traditional manufacturing methods,” said David Wilson, President of TRD. “By partnering with Stratasys we are able to advance our manufacturing practices beyond what is currently possible and really harness the possibilities of additive manufacturing for production parts.”

TRD is expanding its use of additive manufacturing from prototyping to end - use parts by integrating Stratasys Fortus 450mc, F370, and the new composite - ready F370 CR 3D printers into its manufacturing facilities in Salisbury, NC, and Costa Mesa, CA. The industrial-grade 3D printers will be used to create end - use parts, including an FDM Nylon 12CF hood vent for the new Toyota Gr86 production vehicle, as well as to create a wide range of end-use parts across the TRD product portfolio. Further, TRD has been a long - standing customer of Stratasys Direct Manufacturing, using various additive manufacturing technologies for prototyping. TRD will further utilize Stratasys Direct services to 3D print a clamp for the Gr86, utilizing the Stratasys H350 3D printer powered by SAF technology and using sustainable Stratasys High Yield polyamide (PA) 11 material.

"This new partnership represents a significant moment in the evolution of additive manufacturing for high - performance automotive racing applications," said Pat Carey, Senior Vice President, Strategic Partnerships for Stratasys. "We will partner with TRD to support efforts as they further adopt, prove out, and integrate additive manufacturing into their production as a prototyping, tooling, and end - use parts solution across the GR86 and TRD custom parts, as well."

Emballator Tectubes Launches Small - Dose Tube with Twist - Off Cap

Sweden - based packaging company Emballator Tectubes has expanded its small - dose tube range with the launch of a twist - off recap solution.

The new tube features a tamper-proof, twist - off cap closure that reduces the tube's material content by 10% and minimizes its carbon footprint through an enhanced manufacturing process.

Emballator said the twist - off recap solution can be used in a range of sectors, including for pharmaceutical and cosmetic products. Emballator Tectubes sales and marketing manager Jim Johannesson said: "We are very proud of this new tube and a unique twist - off cap closure.

"This tube is easy to fully empty, hygienic for multi-dose use and both material and energy - saving." The twist - off recap tube will complement the company's Small Dose range, which was launched last month with the aim of helping companies reduce their packaging footprints.

onTop Cosmetics to Launch Sustainable Cosmetic Packaging Made With Eastman Cristal™ Renew Copolyester

onTop cosmetics has launched its Renewal Oil Cream, the first of its four core facial cream products to feature packaging made from Eastman Cristal™ Renew copolyester with 50% certified recycled content.* onTop cosmetics is the first Chinese beauty brand to use Cristal Renew, a sustainable resin powered by Eastman's molecular recycling technologies. This industry - leading skin care packaging is the result of the close collaboration between onTop's value chain partners — WWP Beauty and molecular recycling pioneer Eastman.

"onTop strives for light packaging, which is part of the attitude toward sustainability," said Emma Ni, onTop CEO. "We actively seek out light, beautiful and eco - friendly solutions for formulas and packaging. Based on this mission, we chose to make sustainable packaging out of Eastman Cristal Renew for our newly launched cream product. Our efforts, however small, are aimed at reducing consumption and environmental impact and finally making the earth 'lighter.'"

onTop worked with WWP Beauty to develop the primary packaging for version 2.0 of its Renewal Oil Cream, recognized by Mintel as an "Innovative Product" in January 2022. Mintel cites the product's oil-cream texture that enables the addition of lipids such as ceramide 2, phytosterols and fatty acids to nourish skin. The formulation also utilizes Topnatrol, a patented emulsifying technology based on natural active ingredients rather than synthetic emulsifiers.

For the onTop Renewal Oil Cream, WWP Beauty saw an opportunity to design packaging as innovative as the product inside. The company was looking for sustainable packaging that would take its skin care product to the next level. Eastman's Cristal Renew, made with molecular recycling technology that uses plastic waste as feedstock instead of fossil resources, fit the bill. These technologies break down plastic waste to its fundamental building blocks and use them to create new, high - performance materials. As a result, Cristal Renew offers brands the same level of performance and design freedom they have come to expect from Eastman's resins for luxury cosmetic packaging. It also delivers significant environmental benefits, including landfill diversion and reduced greenhouse gas emissions.

For WWP Beauty, the collaboration with Eastman and onTop provides a platform to demonstrate how the brand can help its customers harness the latest material innovations to elevate the sustainability of its products.

"Working with customers to create a space where we can bring sustainable, innovative beauty products to customers on a global scale is at the heart of

what we do," said WWP CEO Jennifer Adams. "This collaboration with onTop and Eastman is a landmark step for WWP Beauty in our journey to advance sustainability in the beauty industry."

ALPLA Introduces Caps with Added Value

The ALPLA plant in Föritztal, Germany, specialises in caps. Since 2020, it has been developing new products, too.

Glass bottles don't actually exist in the world of ALPLA. But even glass bottles need the right cap. It should ideally be light, practical and sustainable. Which is where the plastics experts come into play. Föritztal Plant Manager Maik Göpfert sees a huge opportunity here: 'If we think outside the box and offer optimum caps for third - party containers, we will acquire new customers and develop market segments.'

The internal Development department was established in 2020. Since then, Project Managers David Martin and Justin Maaser have realised numerous projects and caps on-site. There are currently 25 projects. Every new injection-moulded part must generate added value for the customers and for ALPLA – thanks to reduced weight, an optimised shape or greater recyclability. 'We are focusing on regional customers. There is high demand and it continues to increase,' says a delighted Maik Göpfert. Things are therefore looking good for the plant, which is celebrating its 30th anniversary this year. So there is a good chance that sparkling wine corks they produced themselves will be popping at the party.

Sustainable Sparkling Wine Corks

Rotkäppchen - Mumm, the market leader in sparkling wine and spirits, is committed to sustainability, focusing on lighter glass bottles, increasing its recycling rate and sourcing materials by rail. There was still more potential in the plastic cork and the company first approached ALPLA in early 2020. 'Developing a cap independently of a bottle was new territory for us,' remembers Project Manager David Martin.

Sparkling wine caps are forced in rather than screwed on. They have to be able to withstand internal pressure of up to 10 bar for two years. In addition, the cork is made of two parts – an injection moulding challenge. The famous red cap ('Rotkäppchen' means 'little red cap' translated into German) is made of HDPE, while the stopper made of softer LDPE balances out the pressure. A ten per cent weight reduction was achieved together with the mould shop in the companies headquarter in Hard, Austria – with no deterioration in quality or mechanical losses.

The cork has been in production since April, and 70 million are currently being produced a year. 'The showpiece product for the market leader is our entry ticket,' says Martin, delighted. For even greater sustainability, he is currently working on closure systems made of recycled material or bio - based plastic.

Easy-to-open mineral water cap

A convenient cap for reusable glass bottles which is suitable for the elderly was the aim of a project managed by Justin Maser in 2019. Elderly consumers of mineral water repeatedly complained about difficulties with opening glass bottles. Following a number of simulations, the Foeritztal plant succeeded in developing a very easy-grip cap. 'It's easy to open, but it nevertheless closes securely and robustly,' explains Maaser.

Numerous reusable glass bottles throughout Germany have featured the hand - friendly caps since April. There is huge potential of up to 4.5 billion caps a year in Germany alone. 'With this practical cap, we are making life easier for many people,' says Maaser with conviction. 500 million caps are expected to be produced in the first year. And one thing's for sure – establishing the Development department has already paid off.

Amcor Flexibles Introduces the First High - Speed, Heat Resistant Recycle Ready Cheese Pouch

It's time for a more sustainable and responsible solution for shredded cheese.

The role of packaging for shredded cheese is complex, requiring:

- Specific barriers to preserve the product
- Easy-to-open fitments that can withstand high-temperature sealing and avoid leakers
- The ability to run on high-speed production lines
- Optimizing the product's on-shelf appeal

Until now only mixed material films have performed well enough, but they are hard to recycle and prevent brand owners from reaching sustainability goals.

This is a significant first for the dairy industry. Amcor's AmPrima™ PE Plus heat resistant recycle ready solution for shredded cheese delivers significant value to producers:

- The laminate is pre - qualified for the How2Recycle® label for applications that meet the clean - and - dry requirement
- More sustainable film and zipper combination that can withstand high sealing temperature of up to 300 degrees Fahrenheit without film distortion
- Excellent heat resistance in the outer web improves hermeticity to prevent leakage
- Packs have passed shelf - life tests achieving water vapor transmission rates (WVTR) of 0.5g/m2/day and oxygen transmission rates (OTR) of 0.03 cc/m2/day (0.5 cc/100in2/day) [Test conditions – WVTR 100°F, 90% RH at 1 atm; OTR: 73°F, 0% RH at 1 atm]
- Matching run speeds of 45 cycles/minute achieved with a non - recyclable oriented polyester laminate, for up to 135 pouches / minute on triplex (3 pouches/cycle) mode
- A drop-in solution capable of running at high speeds on any packaging machine, existing or new
- Tear and stiffness are comparable to OPET alternatives, providing an easy to open experience for consumers
- Available with IntegraScore® or laser score opening features
- Ability to achieve a registered matte print finish, enables high quality graphics for improved stand - out - on - shelf that matches existing performance

The opportunity to lead the market with the first high speed, heat resistant, recycle ready retail shredded cheese solution is here today.

And it's ready to run fast, now!

Significant Sustainability Benefits

According to an ASSET™ assessment measuring the production and manufacture of an AmPrima™ PE Plus film compared to current market offerings (48ga OPET/PE/EVOH-PEmLLDPE), AmPrima™ PE Plus film, when recycled, delivers:

- **75%** reduction in non - renewable energy use
- **58%** reduction in carbon footprint
- **54%** reduction in water consumption

AmPrima™ recycle ready with no compromise on performance

AmPrima™ is the result of many years of research into how to remove the OPET or other outer layers (which currently render mixed - material films unrecyclable), and replace it with a film structure that is compatible with the flexible PE recycling stream. The challenge was to ensure that what we replaced it with still delivered on all those features and capabilities that our customers expect.

The AmPrima™ portfolio provides customers with a packaging solution designed to be recycled, if clean and dry, through existing store drop - offs or curbside where available. The portfolio is designed to meet customers' individual requirements against multiple performance criteria, such as stiffness and strength, clarity, line speeds, fitment requirements, graphics and print finishes.

Our expert teams will discuss each customer's individual needs across all of these criteria and identify the ideal AmPrima™ film structure for a recycle ready solution with no compromise on performance. AmPrima™ PE Plus formats are available to address more complex customer applications.

In January 2018, Amcor was the first packaging company to sign a global commitment to develop all our packaging to be recyclable or reusable by 2025, to increase our use of post-consumer recycled content and drive greater recycling, worldwide.

At AFNA we've also been working toward that goal for years. In fact, over 80% of our portfolio is recyclable or has an alternative that is designed to be recycled.

But it's not enough to design packaging that is recycle ready. For decades, our packaging innovations have worked to protect products better, to lengthen shelf - life, to reduce food waste, to meet distribution challenges, and to reduce the package's carbon footprint. This, to us, is the definition of responsible, sustainable packaging, so it is vital that our recycle ready solutions also deliver on these core benefits for our customers and their consumers.

ASSET™ is Amcor's proprietary Carbon Trust-certified life cycle assessment (LCA) service designed to improve the environmental performance of packaging solutions by providing a complete and fact - based comparison of different options.

NEMOSINE Project by AIMPLAS Ends with Smart Packaging that Extends Life of Cinematographic and Photographic Heritage

The NEMOSINE Project, coordinated by AIMPLAS, has come to an end after four years of research to find a more efficient and sustainable storage solution to preserve 20th - century cultural heritage made of cellulose, including film and photos containing this chemically unstable material, which poses a threat to long-term preservation. The project successfully created smart packaging that extends the life and improves the preservation of these valuable cultural items and helps reduce the energy consumption and costs of traditional storage systems (usually based on cold storage below 5ºC).

The new system consists of packaging containing material that adsorbs acetic acid released by the cellulose, sensors that detect acetic acid and nitrogen dioxide, and software to monitor these emissions and generate a degradation model for decision-making on preservation.

The NEMOSINE box is made of polypropylene due to its chemical resistance, stability and water vapour barrier effect, which makes it suitable for injection moulding, and due to its price, a key factor in terms of the scalability and marketing of this innovative solution. The box was subjected to extensive characterization analysis to ensure its functionality and safety for preserving cultural material.

Acetic acid adsorbents were developed to inhibit the degradation caused by what is known as the vinegar syndrome, a process that threatens the preservation of materials derived from cellulose. These adsorbents are based on metal organic frameworks (MOFs), a porous nanomaterial that is able to adsorb acetic acid under moisture conditions, as in the case of cultural heritage with cellulose derivatives.

For easier handling, these adsorbents are included in a packaging mesh in the form of granules in sealed sachets of Tyvek, a 100% synthetic material made of high - density polyethylene fibres. Test results indicate that these adsorbents are effective, mechanically stable and have high adsorption capacity. To prevent fungal contamination, this mesh can be filled with silica gel sachets to dry the damaged material first and then MOF sachets can be installed.

Low-cost, low-energy solution to detect, monitor and fight against degradation

The NEMOSINE Project also involved the creation of a sensor system to detect acetic acid and nitrogen dioxide gases, and thus provide a low-cost, low-energy solution to monitor the degradation of these materials. In addition, a graphical interface was developed to provide users with access to raw data and extracts with simple data communication via a cordless Internet connection. To monitor the degradation process, the NEMOSINE software includes a degradation model with data on

gases emitted as collected by the sensors and metadata entered by users.

The project thus managed to develop a new methodology for assessing the degradation status of historical films, and to determine the effect of each parameter (e.g. relative temperature, humidity and presence of adsorbents) on the material's life. This tool provides curators with a valuable guide to the best preservation actions based on predictions that can help save energy and extend preservation times. Thanks to the smart packaging's modular format, sensors can be also used for environmental control, since they are separate from the box.

A total of sixteen European partners participated in this project, namely, Associação para a Inovação e Desenvolvimento da FCT, Centre Technique Industriel de la Plasturgie et des Composites, Promethean Particles, Akumplast JSC, Biosensor SRL, Nanopharma, Modisprem, Österreichische Akademie der Wissenschaften, Institut Valencià de Cultura, Deutsches Filminstitut & Filmmuseum, PNO Consultants, Beskid Plus, AIMPLAS, Centre National de la Recherche Scientifique, IRIS Technology Solutions and Instituto Superior Técnico Universidade de Lisboa. All these research centres, film archives and industrial partners worked together to obtain this innovative solution to preserve 20th - century cinematographic and photographic heritage. This project received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 760801.

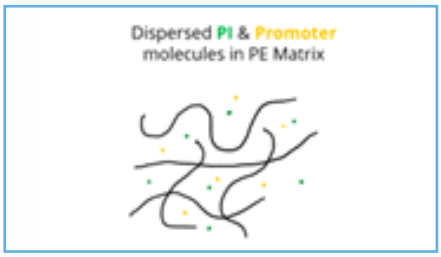
Kafrit, Israeli Masterbatch and Additives Manufacturer collaborates with start-up Israeli additives company N3Cure

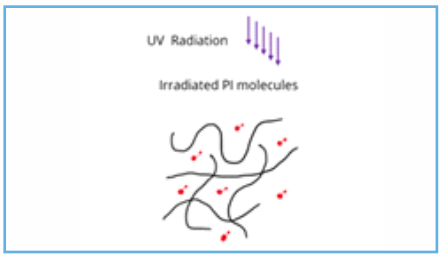
Kafrit, a well - known Israeli masterbatch and additives manufacturer, has collaborated with start - up Israeli additives company N3Cure to create what they call a breakthrough in crosslinking technology for PE films. The system combines a proprietary masterbatch called Crossitol with UV curing radiation to enable processors to produce PE films that will crosslink to improve sustainability and cut costs.

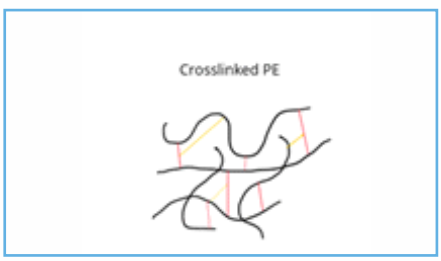
Under the arrangement between the two companies, N3Cure, specialists in polymers, UV curing and sustainability, provides the raw material for the crosslinking additive to Kafrit, which compounds it into a masterbatch. The UV technology is furnished by an undisclosed curing system provider.

Crosslinking is the process of forming covalent bonds to join two polymer chains. With the Crossitol masterbatch, the process is triggered by UV radiation, applied by a UV curing system and integrated on an existing blown film line, resulting in a polymer web-like structure that is stronger than a regular, non - crosslinked polymer chain structure.

“UV crosslinking was designed to be a more cost - effective alternative to electronic - beam technology as it has a higher speed process, and lower maintenance and equipment costs. Unlike electronic - beam technology, selective crosslinking can be applied, and the finished product is easier to recycle,” said Kafrit's Nadav Goldstein, v.p. of new business development.







The UV curing system is comprised of several units: lamps system (including rollers); chillers (air/water); power supply unit; and an HMI (Fig 1). It can be tailored for specific processing lines. This tailor - made process ensures quick and seamless installation, with minimal downtime to the production line. The masterbatch and UV curing system can be used in valid range of blown and cast - film applications.

To improve the crosslinking process even further, a promoter is dispersed in the PE matrix in addition to the photo initiator. A reaction between them occurs and improves the web formation as shown in Fig. 2.

New Products, Digital Offerings from Mold Technology Supplier

Hasco said that at K 2022 it will present a temperature control program, a flow meter, new ejector pins for ventilating cavities, and ejector pins from HSS quality steel. Hasco says it can offer more than 700 ejector sizes spread over all product variants. For additive manufacture of complex geometries, Hasco has metal powder in the steel grades 1.2709 and 1.4404, offering what it calls an ideal combination of particle size and spherical accuracy. It will also feature its Loc Check A5900/... location device that makes it possible to locate the position of an injection molding tool anywhere worldwide, where there is a GSM network.

In hot runners, the company's focus is on its Stream runner line of additively manufactured hot runners. A needle valve version offers a new and space - saving option, with faster color changes possible through flow - optimized design of the polished runners with large deflection radii.

On Digitization, the company said all show highlights, including user-friendly tools, an update of the Hasco app, interesting CAD features and other digital services to simplify day-to-day working, will be presented live at the show.

Blundstone Launches Rotoflex® Safety Boots Made with Basf's Infinergy®

Blundstone, a leading safety footwear brand, has launched RotoFlex®, a new series of safety boots featuring BASF's Infinergy® Expanded Thermoplastic Polyurethane (E-TPU).

Infinergy rebounds 55% energy with each step and is lighter weight than conventional materials, which helps safety footwear wearers fight fatigue. Soft and elastic Infinergy provides optimal and continuous cushioning and excellent shock absorption. This enables Blundstone RotoFlex wearers to work safely and comfortably all day, every day.

“Safety shoe wearers can be on their feet more than 10 hours a day. This exerts significant pressure on their feet, legs, joints, and lower back. Infinergy is well - known for its robust properties in safety footwear and will no doubt benefit consumers in the Australian safety footwear market, including tradespeople, construction workers, miners, and logistics staff such as warehouse and transport workers,” said Adrian Blandford, Global Range Manager (Work & Safety), Blundstone Australia.

The Blundstone RotoFlex range is now available in leading safety and workwear stores across Australia. The boots will also be featured at the Workplace Health and Safety Expo held in Sydney on 20-21 September 2022.

Visit infinergy.basf.com to learn more about how Infinergy is empowering movement for safety footwear around the globe.

Essentra Components' Clever Use of Insulation Jackets Cuts Energy Usage

An innovative energy reduction initiative based on the concept of insulated jackets is helping industrial components manufacturer Essentra Components cut its energy usage when heating machine barrels.

As a programme, some 347 injection moulding machines will be wrapped in custom - made heat jackets made from high - efficiency insulation to reduce heat loss in the extrusion barrels. Almost 300 machines have been fitted with jackets and Essentra Components has seen a 15 per cent reduction in energy usage per machine when its barrel is heated.

The jackets are installed in sets of three across the barrel and reduce heat loss per cycle across the machine. They also reduce the amount of energy needed (by 0.4kWh of electricity) to reheat the barrel for the next cycle. Furthermore, the jackets have reduced the external guard temperature by 30 per cent, decreasing the risk of accidental burns.

Essentra Components estimates that the jackets are saving £400 per year in the UK, across 7,000 hours of manufacturing per machine, whilst costing just over half of that figure to install – representing an ROI of just 0.6 years.

Essentra Components expects the jackets to extend the lifespan of its electric machinery as well as reducing CO2 emissions. At its Flippin Arkansas location, 83

machines have been fitted out and are expected to shed 654 metric tonnes of Co2 annually.

A 'win win' solution

Richard Sederman, Strategy and M&A Director at Essentra Components said: "As a business, we've set ourselves the goal of achieving carbon neutrality by 2030. To do that it takes many small yet critical innovations like these heat jackets to make the incremental steps needed to reduce our carbon output.

"The results we've seen so far are impressive in comparison to the extremely low installation cost. Not only will it reduce our energy usage and carbon output, but it will keep our team safe. In truth it's a 'win win' solution to a very challenging problem."

Chris Butler, Divisional Engineering Manager, added: "In recent months we've accelerated the installation of new electric machinery. These new heat jackets will allow us to not only make those machines more efficient but extend their lifecycle, helping use reduce wastage and carbon emissions, ensuring these machines continue to run for years to come."

The final stage of installation will see the last 52 machines fitted with heat jackets in Rayong Thailand. By project end, Essentra Components will have installed 1,041 of the energy jackets across all its injection moulding machinery.

BASF's IrgaCycle™ stabilizes recycled plastics used to protect pineapples from sunburn in Malaysia

- **IrgaCycle™ enhances the quality of post - consumer and post - industrial polyolefin material for re - use in various applications**

Hong Kong SAR, China – July 19, 2022 – BASF and 3T Industries Sdn Bhd, a leading recycling company in Malaysia dealing with post - industrial and post - consumer recyclates, are helping pineapple plantations in Malaysia to increase their yields and save resources. For the first time, 3T Industries has applied BASF's IrgaCycleTM Uv033 DD to enhance 100% recycled high density polyethylene (HDPE) sheets used as protectors for pineapples.

While pineapples require a warm and humid climate, they are susceptible to damage from solar radiation and high temperatures (> 32°C) which can significantly reduce marketable yield and cut deep into a grower's profit. Symptoms include sunburn or bleaching which are visible as yellow - white skin that turns pale grey or brown upon damage to the tissue underneath. This damaged tissue is susceptible to disease and infestation. The HDPE protector shields the fruit from direct sunlight while still allowing photosynthesis to occur.

Previously, 3T Industries used a combination of antioxidants and light stabilizers to achieve the performance requirements stipulated by the grower – the HDPE protectors needed to last through the intended service lifetime of four seasons.

IrgaCycle offers a one - pack solution that is immediately available for the recycler without the need for further premixing. It is also more efficient at lower concentrations compared to traditional antioxidant systems and reduces the overall quantity of additives required. This results in easy and accurate dosing, improved product quality, as well as upgraded recyclate for use in long - term applications.

"We use our expertise in recycling technology and post - consumer resins to provide better solutions to consumers and communities," says PH Tan, Managing Director of 3T Industries. "With IrgaCycle, we were able to use recycled feedstock to design a new product that features a high amount of recyclate content and makes more sustainable agricultural plastics possible."

BASF not only provided 3T Industries with the suitable additive solution, but also the technical recommendations to stabilize the recycled polymers during processing and outdoor weathering. This is important as an effective and sustainable application of recycled materials depends on, amongst others, the optimization of process conditions and modifying agents.

Borealis Announces the Start - Up of New Ethane Cracker at Its Joint Venture Baystar in Port Arthur, Texas

Bayport Polymers LLC ("Baystar®"), a 50/50 joint venture ("JV") between Total Energies (NYSE : TTE) and Borealis, announced the start-up of a new ethane cracker with an annual production capacity of one million tons of ethylene.

This almost $2 billion project built on the site of and operated by the Total Energies refinery in Port Arthur, Texas, represents 14 million hours worked with more than 2,500 workers at peak construction.

The ethylene produced by the cracker will be used as feedstock to supply Baystar®'s existing polyethylene (PE) units, as well as a new Borstar® technology polyethylene unit currently under construction in Bayport.

"After significant investments in U.S. LNG and renewable electricity in 2022, the start - up of this new cracker is another milestone strengthening Total Energies' presence in the United States. This investment is in perfect alignment with our strategy to develop petrochemicals at our integrated platforms. At Port Arthur, we take advantage of the abundance of ethane in the U.S.," said Bernard Pinatel, President, Refining & Chemicals, TotalEnergies.

"I am excited to see the start - up of this new ethane cracker, an important milestone for us as we are expanding our global footprint through Baystar. We are pleased to bring Borealis' proprietary Borstar® technology to North America for the first time, allowing Baystar to produce enhanced polyethylene products for the most demanding applications," said Borealis CEO, Thomas Gangl.

"This is an important milestone for Baystar as we become a fully integrated polyethylene company. Our focus is on growing the polymers market in North America and leveraging the power of partnership with TotalEnergies and Borealis," said Diane Chamberlain, Baystar President.

The Baystar® JV is the translation of the growth ambitions of TotalEnergies and Borealis in the United States. It includes:

- **The Baystar site in Bayport (Pasadena, Texas)** with a 400,000 ton - per - year PE capacity.
- **The one million ton - per - year ethane cracker at the TotalEnergies Port Arthur Refinery,** which now has successfully started operations.
- **The under - construction 625,000 metric ton - per - year PE unit in Pasadena,** using the Borealis proprietary Borstar® technology to deliver a broad range of products to help meet the growing global demand for plastic products. The Borstar® process offers simultaneous improvements in production flexibility and environmental performance such as high energy efficiency. Furthermore, Borstar® products excel in sustainability, for example through light - weighting and by enabling incorporation of more than 50% post - consumer recycled materials in some end products.

Ineos Styrolution and Sinopec Announce Joint Venture for ABS in China

As part of the overall cooperation between INEOS and SINOPEC, the two organisations today announce the formation of a 50/50 joint venture to produce and sell ABS. The joint venture will build production of 1.2 million tonnes of ABS to supply the rapidly growing domestic market in China.

The world - scale ABS plant in Ningbo, which is currently under construction by INEOS Styrolution and planned to become operational in 2023, will become part of the new joint venture. This will provide a strong cornerstone in an organisation that is poised to become an ABS leader in China.

Steve Harrington, CEO INEOS Styrolution, comments: "INEOS Styrolution has come a long way from being a joint venture itself in its early years. After acquisitions and investing into new green - field production sites, setting up this joint venture with a strong partner in China feels like the natural next step for growth. We entered China with our first local production sites in 2019. The collaboration with SINOPEC allows us to continue to grow in China in fast - forward mode."

Rob Buntinx, President APAC at INEOS Styrolution, adds: "We are particularly excited that our Terluran® ABS is the basis for this cooperation. While INEOS Styrolution contributes to the joint venture with technology, customers, and market expertise, SINOPEC provides feedstock integration, and an unequalled network in China. We are looking forward to the collaboration with SINOPEC. A one - off opportunity to accelerate our growth ambitions in Asia."

Trinseo Introduces Sustainable Altuglas™ R - Life Acrylics

Trinseo has announced a new series of sustainable materials for the European marketplace — Altuglas R - Life Acrylics. Altuglas R - Life is an umbrella brand that will include chemically and mechanically recycled, reused, and bio - based polymethyl methacrylate (PMMA) for cast and extruded sheets, resins, and compounds.

The series launched with the following:

- Altuglas R - Life Extruded Acrylic Sheets, with a minimum of 75% mechanically recycled, reused PMMA scrap material;
- Altuglas R - Life Cast Acrylic Sheets, with a minimum 75% chemically recycled PMMA cast sheet;
- Altuglas R - Life Acrylic Resins, with both 50% and 80% chemically recycled monomer from PMMA waste.

The materials can be used in a range of application areas including retail, lighting, interior architecture, furniture and design, building and construction, and transportation.

"With Altuglas R-Life we look at sustainability broadly — as any number of solutions that might enable a customer to achieve positive sustainability outcomes," said Aldo Zanetti, Global Sustainability Manager, Engineered Materials. "We plan for Altuglas R - Life to be a growing and dynamic series, proven, with scientific tools such as LCA, to have a measurable environmental impact."

For each Altuglas R - Life sustainable solution, the global warming potential (GWP) was calculated through a life cycle analysis (LCA). By replacing fossil feedstock with sustainable content, reductions in GWP of 35% for cast sheets with 75% sustainable content and 53% for extruded sheets with 75% sustainable content are achieved. Further, GWP reductions of 24% for resins with 50% sustainable content and 38% for resins with 80% sustainable content are realized.

Altuglas R-Life Extruded Acrylic Sheets is an Altuglas CO2NET product with CO2 emissions reduction greater than 50% over its virgin, fossil - based equivalent.

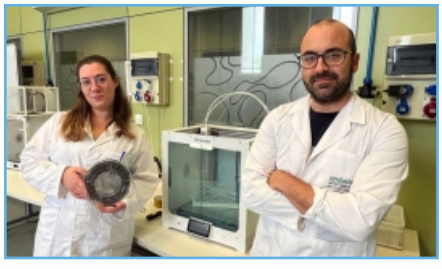
Chemically recycled Altuglas R - Life cast acrylic sheets and acrylic resins as well as mechanically recycled, reused Altuglas R-Life extruded acrylic sheets achieve the same mechanical, aesthetic, and optical properties of their fossil-derived equivalents, according to Trinseo. The chemical recycling method involves PMMA waste depolymerization, where the material is converted to its original methyl methacrylate (MMA) monomer.

Trinseo said it is committed to solutions for plastic waste by partnering with the value chain and developing and sharing

innovative recycling technologies and approaches. Since its acquisition of Altuglas International, the company has been a member of European Union initiatives MMAtwo, focused on constructing a novel PMMA recycling value chain, and REVOLUTION, an automotive industry led project to apply recycled PMMA and other plastics to electric vehicles.

Altuglas R-Life extruded sheets, resins, and compounds are produced at Trinseo's Rho plant, near Milan, Italy. Altuglas R-Life cast sheets are made at the company's Saint-Avold, France, and Brondeslev, Denmark, locations.

Shape Memory Polymers can Offer Benefits in Regenerative Medicine



A discovery made by plastics research centre Andaltec, in Spain, has the potential to impact both prosthesis and implant production, as well as open the door to new advances in tissue engineering.

Scientists at the centre have developed a material which can potentially regenerate muscle tissues based on polymers with shape memory properties and graphene derivatives. The materials, created within the scope of the PoliM3D project, consist of a series of advanced biocompatible polymers with shape memory properties for biomedical applications employing 3D printing technology and feature properties making them suitable for the manufacture of customised implants, prostheses and surgical tools.

The materials have also been found to offer great potential to regenerate muscle tissues. This discovery is one of the most important to emerge from the PoliM3D R&D project, which has been running since 2019.

The project, funded by the R&D scheme directed to private entities of the department for Economy, Business and University of the Andalusian government, sought to develop and characterise new polymeric materials which could be easily processed by means of FDM printing technology.

Based on shape memory property polymers, the materials have shown themselves able to assimilate into the host environment with a defined geometry and to adapt to this environment when thermally activated. The researchers then, working in collaboration with another group at the at University of Jaén, also functionalised the newly developed materials with chemically - modified graphene derivatives. This was done to improve the properties of the plastic matrix and to boost both adherence and cell growth.

The team at Andaltec identified the optimal formulation and carried out a series of mechanical, physicochemical lab tests after which the materials were biologically validated by a research group led by professor Amelia Aránega at the University of Jaén, in tests performed on myoblast cell lines.

These tests showed that the polymer was biocompatible with this type of cells and confirmed that cell growth and adherence occurred.

“We have compared the behavior of the new material being non-additivated and graphene-additivated, which led to the discovery that cells contract and expand without an external stimulus, thanks to the presence of graphene derivatives. This fact confirms that this polymer could help in 3D tissue regeneration,” said Antonio Peñas, head of the PoliM3D project together with researcher María Dolores Ramírez.

Andaltec technicians also developed 3D printing filaments and optimised the additive manufacturing process, making it possible to manufacture prostheses and implants using the material swiftly and safely. Additive manufacturing and the use of polymers with shape memory properties open up several possibilities in order to offer more affordable and efficient medical treatments, said Peñas, especially when produced in the hospital itself by specialised personnel. The use of 3D printing in the health sector can reduce both the cost and the time needed to start treatments, driving better health outcomes and more rational use of the limited resources available for health systems.

Geno and Aquafil Begin Pre-Commercial Production for Plant-Based Nylon-6

Sustainability leader Genomatica (Geno) alongside longtime collaborator Aquafil [ECNL:IM] successfully completed the first demonstration scale production runs for plant - based nylon - 6. The material is intended to reshape the $22B nylon industry, enabling brands to meet demand from consumers for sustainable everyday materials from apparel to automotive parts to carpets. Geno and Aquafil have produced the first several tons of plant-based nylon - 6 building block caprolactam, have converted it to nylon-6 polymer, and are now in the process of transforming it for evaluation in nylon applications such as yarns for textile and carpet and engineering plastics as part of pre - commercial quantities from demonstration production taking place in Europe.

The companies have been collaborating to first produce pilot - scale quantities of plant-based nylon - 6 and have now advanced to produce pre - commercial quantities at demonstration scale which will help determine the final design of future commercial plants. The material will go to leading global brands and their value chain partners who are eager to explore and develop renewable products, create showcase goods and test feedback with customers.

“Now, more than ever, global brands are taking action to incorporate sustainable materials into their products,” said Christophe Schilling, Geno CEO. “We're working to build purposeful, traceable and transparent supply chains, in this case for nylon 6, with the goal to provide more sustainable products that consumers demand and material solutions that can help brands achieve their ESG goals.

“The world needs every possible approach put into action to make supply chains sustainable, and making bio - based nylon an essential piece of that,” said Giulio Bonazzi, Aquafil CEO. “Plant - based nylon can perfectly complement our approach to depolymerizing nylon products once they reach the end of their useful life. Together, we share a vision to lead the transition to more sustainable materials which has driven our long - term collaboration.”

Geno and Aquafil start - up pre - commercial production of plant - based nylon intermediate at the new demonstration plant located at Aquafil Slovenia. Plant - based nylon - 6 is Geno's third major product line on a path to commercialization. The company has executed high impact deals with a range of brands to accelerate the global commercialization of sustainable materials, with the potential to reduce greenhouse gas emissions by 100 million tons in upcoming years. Recent milestones advancing the sustainable materials transition include: a collaboration with lululemon (NASDAQ: LULU) to bring plant-based materials into lululemon's products, a production milestone with partner Covestro (OTCMKTS: COVTY) for plant - based HMD used in sustainable coatings, and a partnership with Asahi Kasei (OTCMKTS: AHKSY) and a newly formed venture with Unilever (NASDAQ: UL) to commercialize and scale plant-based alternatives to feedstocks like palm oil or fossil fuels, to make key ingredients used in everyday cleaning and personal care products.

PET - Like Bioplastic from Biomass

Bioplastics derived from a variety of natural sources are contenders particularly for the five major commodity thermoplastics — PE, PP, PS, PVC, and PET. One of the latest is a new biomass-derived plastic similar to PET, that meets the criteria for replacing several current plastics while also being more environmentally friendly has been developed by scientists from public Swiss research university The École Polytechnique Fédérale de Lausanne, which specializes in natural sciences and engineering.

According to the researchers, led by professor Jeremy Luterbacher at EPFL's School of Basic Sciences, producing competitive biomass - based plastics is not straightforward. He notes that there is a reason that conventional plastics are so widespread, as they combine low - cost, heat stability, mechanical strength, processability, and compatibility – features that any alternative plastic replacements must match or surpass. And so far, the task has been challenging.

Says Luterbacher, "We essentially just 'cook' wood or other non-edible plant material, such as agricultural wastes, in inexpensive chemicals to produce the plastic precursor in one step. By keeping the sugar structure intact within the molecular structure of the plastic, the chemistry is much simpler than current alternatives." The technique is based on a discovery that Luterbacher and his colleagues published in 2016, where adding an aldehyde could stabilize certain fractions of plant material and avoid their destruction during extraction. By repurposing this chemistry, the researchers were able to rebuild a new useful biobased chemical as a plastic precursor.

Says Lorenz Manker, the study's first author, "By using a different aldehyde – glyoxylic acid instead of formaldehyde – we could simply clip 'sticky' groups onto both sides of the sugar molecules, which then allows them to act as plastic building blocks. By using this simple technique, we are able to convert up to 25% of the weight of agricultural waste, or 95% of purified sugar, into plastic."

The well - rounded properties of these plastics could allow them to be used in applications ranging from packaging and textiles to medicine and electronics. The researchers have already made packaging films, fibers that could be spun into clothing or other textiles, and filaments for 3D - printing.

Says Lutenbacher, "The plastic has very exciting properties, notably for applications like food packaging. And what makes the plastic unique is the presence of the intact sugar structure. This makes it incredibly easy to make because you don't have to modify what nature gives you, and simple to degrade because it can go back to a molecule that is already abundant in nature."

This new bioplastic is now in the process of being commercialized by Bloom Biorenewables, a spin-off from EPFL. They are working with potential customers to field-test the material for various applications.

Birmingham Scientists Identify Synthetic Polymers That Induce Biofilm Formation

Scientists from the University of Birmingham have revealed a new method to increase efficiency in biocatalysis. Their method is described in a paper published on August 1, 2022 in the journal Materials Horizons.

Biocatalysis uses enzymes, cells, or microbes to catalyze chemical reactions. It is used in settings such as the food and chemical industries to make products that are not accessible by chemical synthesis. It can produce pharmaceuticals, fine chemicals, or food ingredients on an industrial scale.

However, a major challenge in biocatalysis is that the most commonly used microbes, such as probiotics and non-pathogenic strains of Escherichia coli, are often very poor at forming biofilms. These growth-promoting ecosystems form a protective micro - environment around communities of microbes and increase their resilience. In short, biofilms are important to boost productivity.

Genetic engineering is typically employed to solve this problem. However, this is often a costly and time - consuming process. Therefore, researchers Dr. Tim Overton from the University of Birmingham's School of Chemical Engineering, and Dr. Francisco Fernández Trillo from the School of Chemistry,* both of whom are members of the Institute of Microbiology and Infection, set out to create an alternative method to bypass this process.

The scientists identified a library of synthetic polymers and screened them for their ability to induce biofilm formation in E. coli, a bacterium that is one of the most widely studied micro-organisms and commonly used in biocatalysis.

This screening used a strain of E. coli (MC4100) that is widely used in fundamental science to study genes and proteins and is known to be poor at forming biofilms, and compared it to another E. coli strain PHL644, an isogenic strain obtained through evolution that is a good biofilm former.

This screening revealed the chemistries that are best suited to stimulating biofilm formation. Hydrophobic polymers outperformed mildly cationic polymers, with aromatic and heteroaromatic derivatives performing much better than the equivalent aliphatic polymers.

The researchers then monitored the biomass and biocatalytic activity of both strains incubated

the presence of these polymers, and found that MC4100 matched and even outperformed PHL644.

Further studies examined how the polymers stimulate these profound increases in activity. Here the research indicated that the polymers precipitate in solution, and act as coagulants, stimulating a natural process called flocculation that triggers bacteria to form biofilms.

Dr. Fernandez-Trillo said: "We explored a broad chemical space and identified the best - performing chemistries and polymers that increase the biocatalytic activity of E. coli, a workhorse in biotechnology. This has resulted in a small library of synthetic polymers that increase biofilm formation when used as simple additives to microbial culture. To the best of our knowledge, currently, there are no methods that provide this simplicity and versatility when promoting biofilms for beneficial bacteria."

"These synthetic polymers may bypass the need to introduce the traits for biofilm formation through gene editing, which is costly, time-consuming, non-reversible and requires a skilled person in microbiology to implement it. We believe this approach has an impact beyond biofilms for biocatalysis. A similar strategy could be employed to identify candidate polymers for other microorganisms such as probiotics or yeasts, and develop new applications in food science, agriculture, bioremediation or health."

DOMO Chemicals and Hynamics commit to joint project for the production of polyamides from low-carbon hydrogen

DOMO Chemicals, a leading producer of engineered polyamide materials, and Hynamics, a 100% subsidiary of EDF Group specializing in the production of low - carbon hydrogen, have entered into a partnership project with the objective of achieving zero - carbon for 100% of the hydrogen used at the Belle - Étoile industrial site, in Saint - Fons (south of Lyon, France), in the heart of the French Vallée de la Chimie ("Chemistry Valley").

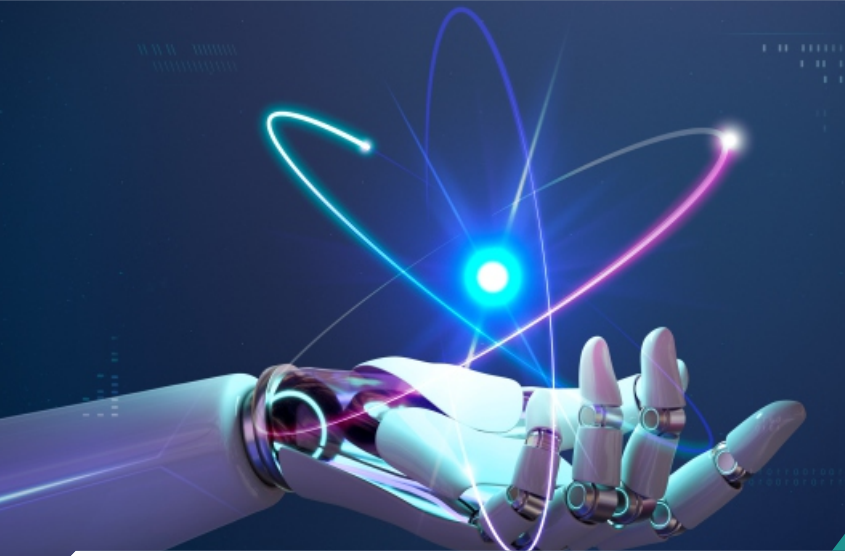
For the first time in France, the "HyDom" project will enable the installation of an 85 - megawatt (MW) hydrogen production plant using the water electrolysis process at the Belle - Étoile site, with a production capacity of 11,000 metric tons of low - carbon hydrogen per year. The plant will be powered by the French low - carbon electric power mix. By 2027, it will supply 100% of the annual production of hexamethylene diamine, a key component used in the production of plastics.

The project will eventually prevent the emission of 84 kilotons of carbon dioxide (CO2) each year. Hexamethylene diamine, and ultimately, durable and low-carbon polyamides, will be used in various applications in major industry sectors, such as automotive, electronics, and heating & cooling.

This project is a major step towards the decarbonization of industrial sites that use grey hydrogen (produced from fossil fuels). The location in the Vallée de la Chimie within the vicinity of major transport routes opens up opportunities for the creation of a more complete hydrogen ecosystem.

The first phase of the project will consist of building up and ascertaining technical concepts and integrating the low - carbon hydrogen production plant within the larger production process of hexamethylene diamine.

Considering the high-power scale of the future electrolytic hydrogen production facility, the HyDom project is being developed in close collaboration with RTE (an organization in charge of managing the French power grid), to solve connection issues. As a priority project for the industry's zero - carbon strategy and for the "France 2030" investment plan, HyDom is supported by the French government and has been presented to the European Commission for public funding.



Engel to Showcase Sustainability at K 2022

At K 2022, Engel will highlight its new concept for processing recycled flake directly after grinding, using a two - stage injection unit with filtration on the screw plasticating stage and degassing on the injection plunger. (Image: Engel)

At its June press preview of its exhibits at the upcoming K 2022 fair in Dusseldorf this October, Engel put primary emphasis on sustainability, circular economy and reducing carbon footprint. For example, the company highlighted its innovations in mold-temperature control. "Many processors think that they have already achieved the maximum energy savings potential by using an all-electric injection molding machine," said Dr. Gerhard Dimmler, chief technology officer of the Engel Group. "But a precisely tuned temperature-control solution helps them do far more." One tool for achieving that goal is Engel's iQ flow control, part of its family of "smart assistance systems." Engel says such software for the "self-optimizing injection machine" is essential for saving energy and material waste by avoiding rejects and tuning the process for maximum efficiency. At the show, Engel will showcase a brand-new addition, iQ hold control.

'Stretch, cover & hide'

For the circular economy, injection molders have three main strategies, which Engel summarizes as "Stretch, cover and hide." The first of these- "stretch" - refers to mixing recycled with virgin material, which requires the proper injection unit design (Engel is introducing a two - stage concept with filtration and degassing) and self - optimizing control software, such as Engel's iQ series. "Cover" means using in-mold decorating (IMD) to provide an aesthetic surface for recycled materials. Engel provides foilmelt and clearmelt technologies for this purpose. And "hide" means embedding the recycled content in the core of a sandwich structure with virgin skins - such as with Engel's skinmelt and coinjection technologies.

Digital Watermarks

In addition, Engel recently joined the R-Cycle consortium of companies seeking to enhance plastics recycling through incorporating "digital watermarks" that are nearly invisible to the human eye, but which can be electronically scanned to convey all the necessary information about the material content, manufacturer and manufacturing process. Digital watermarks can be spread over the surface of a part via in-mold labeling (IML) or embedding within a mold surface texture. Engel joined R-Cycle in May, shortly after the plastics recycling equipment company Sikoplast also became a member. Based in Germany and founded in 2020, R-Cycle currently has 15 members, including Arburg, Reifenhäuser, Kautex, Erema, Kampf, Brückner Maschinenbau, Multivac and the Institute for Plastics Processing (IKV) in Aachen.

Erema Group and Borealis Provide a First Glimpse of the Topics, Activities And Highlights They Will Present in Düsseldorf

K 2022 in Düsseldorf is approaching fast, and preparations are in full swing. 13 June, Borealis and EREMA Group invited representatives of the international plastics and recycling trade press to Upper Austria for a sneak preview of the technological developments and lighthouse projects that the companies will present at K 2022, the plastics industry's international meeting place. The venue for the pre-K event was EREMA Group headquarters in Ansfelden.

Publishers and editors of more than 50 international trade magazines accepted Borealis and EREMAs invitation to Ansfelden to get information first - hand about the companies' trade fair topics and activities.

"Our mission 'Another life for plastic, because we care', is also our tagline at this year's trade fair. This underlines what EREMA company group will be showing plastics industry insiders and all other visitors to the trade fair: That it is possible to implement a circular economy if everyone in the value chain works together," said Manfred Hackl, CEO EREMA Group GmbH, in his opening presentation.

Borealis – accelerating the transition towards a more circular future

Our industry is undergoing a revolution. We are moving together into a more circular future. Borealis is dedicated to sustainable business growth through innovation that drives the circular transformation of our industry. The K Fair 2022 theme 'Innovate Collaborate Accelerate' highlights the need to work ever more closely with partners around the globe to produce differentiated polyolefins-based solutions that make circular, modern life possible for society as a whole. Achieving the huge transformation from today's linear system to the circular one of tomorrow will require innovation, collaboration, and acceleration throughout the entire value chain.

Borealis is committed to using their expertise and global reach to advance the circular economy of plastics. At the joint Pre-K 2022 kick - off on June 13, Borealis provided a preview of their integrated way of circular thinking and featured topics and activities at the K Fair 2022 in October. The preview covered new technologies and innovations including new packaging and infrastructure applications of the Bornewables™ portfolio of circular polyolefin products, manufactured with renewable feedstocks. New applications for Design for Recyclability, Re-Use, chemical recycling and advanced mechanical recycling are also on display.

“The transformation to a regenerative and circular system is an era - defining societal challenge,” states Lucrèce Foufopoulos, Executive Vice President Polyolefins, Innovation and Technology, Borealis. “We envision a future of plastics circularity and carbon neutrality, which can only be achieved by decisive and coordinated action across the value chain. We must act now for a better tomorrow. We welcome the occasion of the K Fair 2022 to demonstrate our commitment to 'Innovate Collaborate Accelerate' and drive the transformation of our industry.”

We invite you to 'Innovate Collaborate Accelerate' together with us by visiting Borealis in Hall 6 at Stand A43. With our expertise and focus on innovation, we provide our customers and value chain partners around the world with high performance solutions that make circular, modern life possible for society as a whole. Together, we can drive the transformation of our industry.

We must act now for a better tomorrow: We invite you to “Innovate Collaborate Accelerate” together with us by visiting Borealis in Hall 6 at Stand A43.

EREMA Group K 2022 preview

In Düsseldorf, the subsidiaries of the EREMA Group – which are EREMA, PURE LOOP, UMAC, 3S, KEYCYCLE and PLASMAC – will present their technological innovations, services and support together at a Group trade fair stand for the first time. Seven new recycling systems and components will be presented that enable large - scale plants with a production capacity of up to 6 t/h while setting a milestone in recyclate quality and process stability. This is made possible by technological innovations in the plasticizing unit that have been specially developed for high throughputs with low specific energy consumption, the new EREMA 406 laser filter with a 50 percent larger screening area,

and new digital assistance systems that will be launched at K 2022 and made available on the BluPort® customer platform. These include, for example, the PredictOn app, which helps to anticipate and eliminate imminent malfunctions based on continuous measurement and evaluation of machine data.

New series of machines for new target groups

"CHEMAREMA is a new series we have developed for mechanical material processing as part of the chemical recycling process," says Hackl by way of introducing another EREMA innovation. Mechanical processes are often at the beginning of the process chain for chemical recycling to prepare input streams and ensure a reliable, continuous and energy-efficient flow of feed material. CHEMAREMA features extrusion technology that can be adapted to the application requirements and is designed precisely for downstream chemical processes.

For customers looking for rapidly available recycling systems for simple applications, EREMA Group subsidiary UMAC has an innovation in store for K 2022. The company, which has so far specialised in refurbishing and trading in previously owned equipment, is expanding its business area and in Düsseldorf will launch READYMAC, a standardised, prefabricated recycling solution that can be produced from stock, based on proven EREMA TVE technology.

Finally, in the inhouse recycling segment, PURE LOOP and PLASMAC will round off the wide range of machines offered by the group of companies with their product portfolio.

Live recycling and lighthouse projects at the Circonomic Center

In the outdoor area of the K show, EREMA will bring plastics recycling to life with live demonstrations in conjunction with cooperation partners. Different waste streams are processed for this purpose. The wide variety of high - quality applications for recyclate will be showcased in the "products made of recyclate" exhibition, ranging from technical components to consumer goods and food packaging.

At the EREMA Group, anticipation is already at a high level in the run up to K 2022. "The circular economy has become a mega-topic in the plastics industry, even for plastic waste, although this was unthinkable just a few years ago. This boost confirms the work we have done over the past few years. There is still a lot to do, but all the players in the value chain are now pulling in the same direction. That is something that will be seen and felt at this year's K show," says Manfred Hackl.

Boom in Stretching Lines for Packaging Films As Mentioned In a Pre - K Press Conference by Brückner Maschinenbau

At its recent pre - K press conference, the Brückner Group shared its current business outlook. After positive turnover development in the past years, a growth of more than 50% compared to K 2019 and an annual turnover of more than €1 billion (for the first time) are indicated for 2022.

The fact that this economic growth was possible during the past two pandemic years is not least due to the flexibility of the individual group companies, for example, operations were largely converted to home offices, and various cancelled foreign assignments could be cushioned by the worldwide branch network and by digital and remote solutions.

More importantly, the broad product portfolio, including packaging films and EV battery separator films, enables the Group to react quickly to market trends and, if necessary, to compensate for fluctuations in the individual industries. The expansion of applications to include alternative materials does the rest.

Boom in stretching lines for packaging films

It is reported that the biggest driver of the Group's growth is the film stretching business of Brückner Maschinenbau. It has even more than doubled its turnover since 2019. In the years 2020 and 2021, the market for packaging films has exploded worldwide. As a result, the demand for film stretching lines from the company has greatly increased.

In 2020, Brückner Maschinenbau's turnover in complete lines and equipment for the plastics and film industry

was around €400 million, in 2021 already around €500 million. A record turnover of more than €800 million is expected for 2022.

One reason for the promising business development is that topics such as hygiene and food safety have become much more important in the packaging sector worldwide. In addition, food retailing and mail order have recorded international growth.

Kiefel has also recorded very dynamic growth over the past few years, driven not least by packaging technology. The expansion of the product portfolio to include packaging made of natural fibers also plays a significant role in this.

Demand from Asia remains strongest

According to the Group, the worldwide distribution of its sold lines shows that China continues to be the strongest market, and the Indian subcontinent and South - East Asia remain core markets. But there have also been a pleasing number of orders from Europe in recent years.

After a few quieter years in the typical BOPET cycle, demand for equipment to produce BOPET films was particularly high in Asia. This kind of film is valued there primarily for its very good mechanical strength, good coating capability and further processing capability as a packaging material.

The increasing number of installed polycondensation plants, i.e. own PET raw material production in China, is also responsible for the boom, as raw material producers want to process their raw material efficiently on site into high - quality film.

Besides, the market for BOPP has been stable for years, and consumption has risen steadily worldwide in recent years. BOPP films are popular mainly because of their barrier properties and thus universal applicability for a wide variety of packaging.

Since 2019, Brückner has sold eleven BOPE/BOPP hybrid lines worldwide in this new market segment. Two of these have already gone into operation in Europe, with five more to follow this year. Brückner expects demand in this field to rise steadily in the coming years.

E-mobility as a future growth driver

The Group stated that, on the other hand, special applications such as lines for the production of battery separator films are becoming increasingly important.

Special film lines are in demand worldwide, especially for the rapidly growing e - mobility sector. In total, approximately 35 million electric cars are forecast worldwide by 2030, which will trigger a corresponding demand for some 280 lines for battery separator films for lithium - ion batteries.

In this area, Brückner Maschinenbau has earned a good name in the market. For the emerging separator film production at European locations, it can also score points with its knowledge of the European market, the CE certification of its lines and a flexible, fast service.

Furthermore, since the USA is also again more committed to local production and the electric vehicle market is booming there, Brückner Maschinenbau is receiving more and more enquiries from there.

In order to meet this increasing customer demand, Brückner Maschinenbau will expand its capacity for battery separator systems in the coming years.

Investing in a sustainable future

The Brückner Group is convinced that lasting success is based on excellent products, fair dealings with employees and business partners, and an emphatically sustainable and environmentally friendly orientation of all activities and investments.

In the past year, Brückner Groupthe intensified its effort for a sustainable future, including establishing dedicated sustainability coordinators in all companies, creating a CO2 footprint of the sites, and completing a sustainability report as early as K 2022.

In their core business, the companies of the Brückner Group are of the opinion that the well - tried material plastic has a successful future especially when it is sustainably reused in the sense of a circular economy.

This is also reflected in the development projects of the group companies. Examples include the increasing use of recycled material in plastics processing or the production of

mono - material films and packaging for optimal sortability and thus successful recycling.

These measures are flanked by a strong focus on alternative materials such as packaging made from natural fibers or films made from non - crude oil - based primary materials.

ALPLA Will Be Joining With its Partners Engel, Brink and IPB Printing to Present a Quantum Leap for the Packaging Industry

At K 2022 (19 – 26 October), ALPLA will be joining with its partners ENGEL, Brink and IPB Printing to present a quantum leap for the packaging industry: thin-wall containers that can be manufactured out of standard PET directly through a one-step injection moulding process. As part of this presentation, a machine with an extremely high-performing injection unit will process modified, recycled material (rPET) at the display for ENGEL, an Austrian PET injection machine manufacturer (hall 15, stand C58).

With walls that are just 0.32 mm thick, the transparent, round 125 ml containers represent an entire series of packaging options, particularly for food products. Thanks to their integrated in - mould labelling (IML), the containers leave the manufacturing cell ready for bottling. What is truly extraordinary about this application is the material. The thin- wall containers are made using a single - step process with at least 30 per cent rPET (and with up to 100 per cent possible). Previously, injection moulding was only able to process PET into thick-wall parts such as alpla. com bottle preforms. The final packaging form was then achieved in a second step in the process, for example by using blow moulds.

The goal: bottle - to - cup and cup-to - bottle

Under the European Plastics Pact, all plastic packaging is to be made of 30 per cent recycled material and be 100 per cent recyclable by 2025. Thin - wall containers made of polyolefins or polystyrene are typical materials used for food packaging. Experts believe that the use of these materials will not be sufficient to meet the above targets because there are either no recycling streams (polystyrene) or the recycled material does not currently have food safety certification. The European Food Safety Authority (EFSA) has also not issued positive assessments for the recycling streams.

rPET offers a potential solution for these issues and can help manufacturers avoid penalties, extra taxes or banishment from supermarket shelves. rPET is therefore becoming a cost - effective alternative, despite the high price for this material right now. The EFSA has approved numerous recycling methods for PET, so the material is available in Europe.

The advantage of PET is that there is already a closed recycling loop for it. PET is currently the only packaging plastic that is approved for processing into food packaging in a recycled form on an industrial scale. Thanks to this innovation, the partner companies are paving the way to stop other non - bottle packaging products being downcycled and to let them be recycled or even upcycled instead. This would significantly broaden the spectrum for using PET and rPET, and could signal the establishment of bottle - to - cup or even cup-to-bottle recycling alongside the bottle-to-bottle loop.

Project partners bring together expertise

The modified rPET processed at K will come from beverage bottles treated at ALPLA's recycling plants. To process the modified rPET, ENGEL (based in Schwertberg, Austria) has developed a PET injection machine specially designed for the high performance required for thin- wall injection moulding. What's more, it makes it possible to process any percentage of recycled material, right up to 100 per cent rPET. The other partner companies participating in the trade fair display are Brink (based in Harskamp, Netherlands) for the moulds and IML automation, and IPB Printing (Reusel, Netherlands) for the labels.

Designing for different label trends

In addition to the above, a tool that can process different labels at the same time is also going to be presented at K. This tool means that the partner companies are addressing the world's various trends for in - mould labelling, which in the EU are coordinated by guidelines such as the EPBP/RecyClass

recommendations and in the US by the specifications of the Association of Plastic Recyclers (APR).

To serve the American market and meet its requirements, wash-off inks are mixed into in-mould labels because this market requires that the label and the application are fed into a recycling loop. Europe is offered a different technology: an in-mould label that floats during the recycling process, which makes it easy to separate the inks and the label from the PET.

(Source: Polymer Communique - e-Bulletin – 21st June 2022)

Sustainable and Digital – KIEFEL at K 2022

KIEFEL GmbH, the market-leading company for thermoforming and joining technology for plastics and natural fibers, will be presenting machine, tool and automation solutions for processing recyclable materials at this year's K trade fair from October 19-26 with live demonstrations. The company is also showcasing new digital services, solutions for the medical and pharmaceutical industries and research activities on the topic of sustainability in Hall 3, Stand E 90. In addition, KIEFEL is offering insights into processes for closing the cycle at "The Machine" in the VDMA Dome.

"At Kiefel, we keep our eyes on the megatrends of digitization and sustainability," explains Cornelia Frank, Head of Sustainability at KIEFEL. "That's why we are particularly pleased to be presenting solutions at this K trade fair that ideally match this year's focal topics of circular economy, digitization and climate protection."

Sustainable packaging solutions from a single source

As well as classic, bio-based and recycled plastics, KIEFEL steel rule and tilting machines can also process paper. In live demonstrations of the KMD 78.2 Speed steel rule machine, the company will illustrate how high-quality, sustainable packaging products are made from recycled film - thus making a contribution to tray-to-tray recycling. This is made possible by in-house, unique tool technology and smart automation concepts. KIEFEL is unveiling the new KIEFEL Standard Automation (KSA) at the K. Beside customer-specific automation solutions, the company thereby offers completely modular standard automations based on a building block principle for the most common applications.

In addition, visitors can discover more about the latest packaging technology from KIEFEL, fiber thermoforming of natural fibers, which is in high demand worldwide. Large numbers of the NATUREFORMER KFT 90 machine, which deploys this technology, are already operational worldwide. At the K 2022, the KFT Lab laboratory machine will be used to illustrate the production process and suitable food and non-food applications for the technology. With its own material and technology centers, KIEFEL offers extensive capabilities for proofs-of-concept, which will also be featured.

Research activities for a better circular economy

KIEFEL is committed to increased sustainability in many ways, and has anchored this in its corporate strategy, is EcoVadis-certified and is involved in various research initiatives for a better circular economy. At the booth, visitors will gain an insight into new research activities and results from initiatives such as HolyGrail 2.0, PrintCYC and NextLoop.

Service: Machine status and maintenance at a glance - 24/7

In KIEFEL'S After Sales division, the range of digital services has been expanded. The KIEFEL Portal is the central online platform that allows customers to keep an eye on their machine status around the clock using the "Maintenance Dashboard" and plan upcoming maintenance. Furthermore, users are also informed about suitable machine upgrades. The KIEFEL portal can also be used to identify and request machine spare parts, 3D machine documentation and new interactive online training courses on all aspects of machine operation.

Medical & Pharma: Production of Bioprocess Bags

Simultaneously, KIEFEL is presenting innovations for the medical and pharmaceutical industry. At the K trade fair, the company is exhibiting its expanded portfolio of bioprocess bags with the requisite machine technology. The 3D and 2D bags can be made from PVC-free materials such as PE or PP, or from PVC or EVA, depending on

the customer's requirements. Depending on the customer's requirements, a wide range of options can be implemented, e.g. semi - automatic or fully automatic machines, disposable bags for the storage of stem cells, cell cultures, mixing or separation, in 2D or 3D designs or hose / port connection components.

K Goes Platinum in 2022

When it comes to the plastics industry's biggest international trade shows, only the triennial K show looks to evade the lingering impact of the coronavirus pandemic as it marks 70 years.

K 2019 wrapped up on Oct. 23, having hosted 3327 exhibitors from 63 countries covering more than 177,000 m2 of space. Some 141 days later on March 12, K show organizer and host Messe Düsseldorf announced the cancellation of all events until April 2021 as the coronavirus pandemic took hold.

This June, the fair organizer hosted more than 60 members of the international plastics trade press from 25 countries, in addition to representatives of key machinery and material exhibitors, for its K Preview event, just four months ahead of the show returning to Düsseldorf this Oct. 19-26. In the intervening years since K 2019, the global plastics industry watched its biggest events, from NPE to Chinaplas, be cancelled as COVID-19 made large, indoor gatherings logistically difficult if not legally impossible.

In her remarks, Petra Cullmann, Messe Düsseldorf's global portfolio director for plastics and rubber events, celebrated the coming together of people for the press event and pointed hopefully to a "normal" K this fall.

"I can assure you that this meeting is proof that people are longing for face - to - face meetings again," Cullmann said. "Fortunately K is making its usual cycle. After K 2019, there were no international trade fairs happening, and we know people are really longing to be in person, and they are very eager to see technology and products and touch them and to discuss with partners."

While the K looks to have largely dodged COVID-19, the global events business as a whole felt an acute impact. In 2020, Messe Düsseldorf reported turnover of Euro 119 million. That figure was down sharply from 2019, which registered turnover of Euro 378.5 million. In 2021, the organizer held eight events in Düsseldorf with turnover of Euro 96.1 million

Compared to those figures, things are looking far more positive in 2022. Cullmann noted that K 2022's 19 halls and open spaces are completely booked, with exhibitors locking down 175,000 m2 of exhibit space. Messe Düsseldorf restarted trade shows in May and by the time of the K preview, had run four international fairs in 2022, including the Wire and Tube show, which happened concurrently with the K sneak peek. "So far, the response has been very positive," Cullmann said. "International trade fairs are back on track — we have the restart—and we are looking forward to organizing."

Cullmann also said that unlike some shows it held in 2021, which had strict limitations on things like mask usage and catering, there were no restrictions in place for K at the time of the press event. Also, during its shutdown, the show organizer focused on making its grounds safer for attendees, installing HEPA filtration, among other moves.

Since I've covered the event, I can think of two times where the show was negatively impacted by global events — manmade and otherwise — including taking place one month after the 9/11 attacks in 2001 and literal fallout in 2010 from the eruption of Iceland's Eyjafjallajökull volcano, which impacted air travel. It's fitting that as it marks its platinum anniversary in 2022, that it appears — fingers firmly crossed with one eye on Ukraine and the other on COVID - 19 variants—that its streak of good luck will continue.

Palsgaard to Showcase Full Range of Plant - Based Polymer Additives at K 2022

Palsgaard, a world leader in plant - based emulsifiers and polymer additives for the global food, packaging and plastics industries, will take the opportunity of K 2022 in Düsseldorf, Germany, to position

itself as a preferred supplier to polymer producers, masterbatch manufacturers and compounders seeking to lower their carbon footprint and go renewable. At the world's largest plastics trade fair in Hall 7, Level 1, Booth D20, Palsgaard will present its complete portfolio of sustainable polymer additives and offer first - hand insight in new developments.

"As the plastics industry is transforming from a linear to a circular economy, there is a fast - growing demand for renewable alternatives to conventional fossil - based formulations," says Ulrik Aunskjaer, Global Business Director, Bio Specialty Additives at Palsgaard. "Beyond the more basic raw materials feedstock, this also applies to functional additives, where common synthetic chemistry is under increasing regulatory pressure while consumers demand more natural, safe and healthy ingredients also in the polymers in which their products are packaged. At Palsgaard, we are addressing these issues with a full range of plant - based, food - grade polymer additives, backed by advanced customer and application support."

In packaging plastics, Palsgaard's Einar® additives serve as highly effective anti-fog and anti-static surfactants, dispersing aids, ageing modifiers, EPS coatings and mould release agents. At K 2022, the company will introduce new plant - based innovations in its growing portfolio, developed and optimised at Palsgaard's Polymer Application Centre in Denmark to help customers stay ahead of increasingly stringent regulations, such as on food - contact, without compromising performance or quality. All of these products provide an excellent drop - in replacement for fossil - based additives in existing polymer formulations and have a perfect fit in new responsible packaging solutions.

Furthermore, Palsgaard will also update K 2022 visitors on significant investments made into the future of its polymer additives business. The expansion of the company's carbon - neutral production capacity is proceeding as scheduled. After the successful commissioning of a new emulsifier pellet line with a capacity of 10,000 tonnes in 2020, the Juelsminde site will receive a state - of - the art spray tower, which is expected to go on - stream in the fourth quarter of 2023 and add 30,000 tonnes to Palsgaard's existing spray capacity. This will be complemented by multiple new reaction, distillation and esterification plants, altogether doubling the company's overall production capacity by 2024.

In addition, new sales offices in Brazil, the United States and China will strengthen the support of customers in these regions, as Palsgaard is delivering on its strategy to develop long - term close partnerships and grow its global service capacities.

Visit Palsgaard at K 2022 in Düsseldorf from October 19 through 26 in Hall 7, Level 1, Booth D20 to meet the company's product and market specialists and discuss the sustainable benefits and superior performance of the company's plant - based polymer additives.

Domo at K 2022: Your Partner of Choice for Polyamides and our Planet

- "TECHNYL® Xperience" area at the booth toshowcase innovative solutions and services
- DOMO meets mobility challenges with new sustainable solutions
- Joint outdoor pavilion with Circularise presents digital traceability and polyamide expertise to global supply chain

DOMO Chemicals, a sustainable polyamide player, will exhibit at K 2022 in Düsseldorf. This will be the first opportunity for customers to experience the global TECHNYL® polyamide portfolio since the disruption of COVID-19.

DOMO will be showcasing how its polyamide - based solutions, along with its expertise and services, will help customers meet their future application requirements. As the partner of choice for engineered materials, DOMO will guide visitors through an Xperience path with solutions based on the leading TECHNYL® brand and DOMO's new brand architecture.

In addition, a dedicated sustainability corner will highlight DOMO's ambitious 2030 sustainability targets, with a focus on decarbonization, renewable energy consumption and customer solutions.

Dedicated solutions for demanding applications

Co2 reduction continues to be a major challenge for the industry and DOMO's low carbon footprint solutions help enable its customers' carbon reduction ambitions. Recent developments in lightweight metal replacement, thermal management and e - mobility reinforce the global need for sustainable polyamide-based performance solutions. At K 2022, DOMO will present new sustainable solutions based on the TECHNYL® 4EARTH® brand for the automotive sector through dedicated tech seminars and panel discussions.

As a leading and fully integrated polyamide 6 and polyamide 66 solutions provider, DOMO will also showcase its offering of chemical intermediates, base polymers and Performance Fibers. At the booth, visitors can learn more about the latest NYLEO® performance fiber innovations with improved flame retardancy, enhanced biodegradability and bacteriostatic properties. DOMO's leading brands DOMAMID® and STABAMID® provide the engineering plastics, film, fiber and textile industries with consistently high-quality solutions for better end - product performance.

“We have grown to be the number-two player in Europe for Nylon 6 and 66 with global availability of the well - known TECHNYL® brand and ambitious sustainability targets,” said Yves Bonte, CEO DOMO Chemicals. “We are committed to customers, to our products, and to our planet, creating value for our customers and consumers. At K 2022 we will show customers how we can enable them to achieve high performing and truly circular solutions,” he added.

Meeting future sustainability needs

As a response to K 2022's focus on climate and circularity, DOMO is highlighting its stronger sustainability targets as the company prioritizes these initiatives into their business model. These include expanding the share of circular products in engineered material sales from 10% today to 20% by 2030 and 30% by 2035. Developing new circular grades and increasing feedstock are closely connected to its CO2 reduction plans. DOMO will also present an overview of dissolving technologies, chemical recycling, and recycling from production waste.

“We are the home of excellence for Pa6 and Pa66 with TECHNYL®,” said Ludovic Tonnerre, Chief Commercial Officer International Markets. “At K 2022, we will showcase why polyamides remain the best-known material for a wealth of applications, in particular within the automotive sector. Customers will also experience how our MMI Predictive Simulation digitally supports the implementation of more sustainable and lighter solutions,” he added.

DOMO Service Hub: How to accelerate development cycle time

In addition to its innovative and sustainable portfolio of polymers and resins, customers can experience DOMO's SERVICE HUB. This unique platform enables manufacturers to innovate quickly and keep ahead of the competition in fast - changing markets.

Our suite of interconnected simulation, 3D prototyping, and parts-testing services is designed to help customers push parts performance to new boundaries and speed time to market in dynamic sectors such as automotive, consumer electronics, heating and cooling.

Visitors can also discover an extended database for the TECHNYL® C range of PA6-GF materials and our latest injection molding simulation database. DOMO's experts will be available to discuss success cases, application simulations and prototypes. Visitors can experience a virtual lab tour to explore the capabilities of DOMO's Applications Part Testing Lab, as well.

“Our integration in polyamide 6 and polyamide 66, our expertise from chemical intermediates to engineered materials, and our delivery promise translate into better solutions and better customized - products,” said Philippe Guérineau, Chief Commercial Officer EU & Europe Export. “Our application experts at the booth will offer reliable and high - quality technical expertise, practical guidance and R&D support.”

Circularise: Share insights, not data

Working towards a circular economy, DOMO was an early supporter of Circularise, a start-up that uses blockchain technology for better traceability of plastics across the value

chain. DOMO believes that being able to trace the origin of all raw materials is essential to ensuring that materials can be reused or recycled. At the DOMO pavilion, visitors will experience over 100 m2 of Circularise - based innovations and meet with blockchain experts.

"We believe that better data transparency across the entire value chain is necessary to truly realize a circular economy," said Jordi de Vos, Circularise co - founder. "Our blockchain technology enables traceable, transparent and circular supply chains, which has become more important than ever. DOMO has helped us develop our first iteration of the platform tailored for the plastics industry. We look forward to our joint booth and panel presentations at the pavilion," he added.

K 2022 takes place from 19 to 26 October in Düsseldorf, and DOMO will be exhibiting with an expanded outdoor pavilion covering almost 400m2. DOMO will be presenting its latest sustainable solutions at its joint booth with Circularise in the outdoor area of the show. Please visit our landing page for more information and sign up for DOMO's newsletter to stay up to date: k2022.domochemicals.com

Beefed - Up Injection - Blow Machine at K 2022

At K 2022, Jomar Corp. will introduce the 85 - S Gen II injection blow machine with enhanced specs relative to the IntelliDrive 85 - S unit that debuted at K 2016. For the Gen II unit, the clamp force was boosted from 72 to 76 tons and trigger - bar length from 25.75 to 26.7 in. Customers with 85-S machines can obtain a transfer head to run existing tooling on the new model.

Like previous IntelliDrive machines, the new unit has a servo - driven pump for the injection unit and variable - frequency drive (VFD) on the pump for the clamp, both designed to save energy, hydraulic oil and cooling water. Precise digital control is also said to prolong cylinder life and reduce the closing impact of the press on tooling, extending mold life. Dry-cycle time remains at 1.8 sec.

BB Engineering At The K Show 2022. Plastics Expertise and Innovative Pet Recycling For High - Quality Products

As a sub - exhibitor of Oerlikon, BB Engineering will present itself as an expert in extrusion, mixing and filtration as well as an innovator for PET recycling with the VacuFil and VarioFil R+ systems at the K.

Plastics competence – extruders, mixers, filters

BB Engineering is no newcomer to the plastics industry. As a joint venture of Brückner Maschinenbau (leading with film extrusion lines) and Oerlikon Barmag (leading with man-made fiber spinning lines), BB Engineering took over the extruder division of Oerlikon Barmag already in 2002. BB Engineering can thus draw on more than 60 years of experience in extruder construction and is constantly engaged in development work to further optimize its products. To date, approx. 20,000 extruders have been delivered worldwide. The extruders are mainly used in film and synthetic fiber spinning lines for PP, PET, PA and PE. BB Engineering is the exclusive supplier for its parent companies and also sells extrusion and filtration technology to third party customers. The portfolio also includes various continuous and discontinuous polymer filters from small to large (0.1-40m^2 filter area) as well as various polymer mixers.

The quality of the melt and thus of the end product is BB Engineering's top priority for all components and equipment. "Our company has always stood for high - quality, durable machines and components that enable our customers to manufacture first-class products. A high - quality melt is crucial for trouble - free production and good, consistent product properties" underlines Dr. Klaus Schäfer, Managing Director.

Recycling technology

BB Engineering has been focusing its development work increasingly on recycling technologies for several years. In addition to extruders, filters and mixers that are suitable for both recycling processes and the processing of recyclate, BB Engineering offers a complete PET recycling plant called VacuFil.

With VacuFil, BB Engineering has developed an innovative and unique PET LSP recycling

process. And here, too, the focus is on product quality. The process combines gentle large-scale filtration and targeted IV regulation for consistently outstanding rPET melt quality. Thus, much more than simple "downcycling" is possible with VacuFil. VacuFil processes a wide range of input materials – post-production and post - consumer. The patented key component Visco + vacuum filter removes volatile impurities quickly and reliably. VacuFil is a modular system that can be designed for different recycling applications. There are no limits to the downstream processes. Simple granulation is possible, but also direct feeding into further processing, e.g. in the synthetic fiber spinning mill. BBE offers VacuFil in combination with its own VarioFil compact spinning plant to produce polyester yarn.

Open House

Exactly this process can be visited during the K show at an open house of BB Engineering and Oerlikon Barmag. Not far from Düsseldorf, at the company's site in Remscheid, BBE and Oerlikon Barmag will open their doors and give customers and interested parties an insight into the technical center. Here, visitors can experience the VacuFil Visco + recycling technology in operation with a connected VarioFil spinning plant and see live how high - quality recycling yarn is produced from PET waste.

New Developments and European Premieres At K 2022 from Haitian

A Bigger Booth, More Exhibits, More Room For Smart Solutions: At Its Almost 700 Sqm Booth In Hall 15/A57, The Global Market Leader Will Showcase The Benchmarks of Its Broad Technology Spectrum For A Wide Range of Applications In Key Sectors of The Plastics Processing Industries. Besides Two European Machine Premieres, Haitian International Will Also Present New Developments and Strategies within the Haitian Group At K 2022.

Under the motto "Smart Technologies – Flexible Integration – Sustainable Solutions," Haitian International is clearly positioning its Zhafir and Haitian brands for the future and, together with various partners, will showcase live applications from different industries and application areas. Haitian International will present a total of five exhibits at K 2022. The broad portfolio of electric series from Zhafir Plastics Machinery – whether as an all-electric solution, with integrated hydraulics or as a hybrid solution – will be represented by three machines.

In addition, Haitian International is communicating the synergies within the Haitian Group. Haitian Smart Solutions, also a member of the Haitian Group, will be presented for the first time in Düsseldorf at a European trade show as an accomplished integration partner.

NEW TECHNOLOGIES

While the current machine portfolio already covers almost all requirements in the plastics processing industry, Haitian International is pushing ahead with new developments of its machine series. In addition to two European machine premieres showcasing the wide range of applications for Haitian machines, Haitian International will be exhibiting for the first time intelligent machine functions that enable plastics processors to achieve additional energy savings and more efficient processes. For instance, an intelligent energy management function. Furthermore, the company will introduce other features such as intelligent process optimization, plasticizing efficiency or clamping force optimization and thereby give an outlook to the next machine generation. Haitian International's declared goal: To offer smart features as a standard feature at no extra charge.

FLEXIBLE INTEGRATION

Standardized interfaces and open system integration are the fundamentals for maximum flexibility in terms of connectivity. Thus, Zhafir and Haitian machines offer processors almost unlimited freedom in their choice of integration partners. Accordingly, several system

partners will be integrated into the machine concepts at K 2022. In the MES area, in addition to Haitian Smart Solutions' own "GoFactory", another MES partner will be presented specifically for the European market. All 5 exhibits will be connected to both systems.

INDUSTRY - ORIENTED, SUSTAINABLE SOLUTIONS

Energy efficiency has always been a key aspect in the development of all Haitian machines. In this regard, sister company Haitian Drive Systems confirms its value as a co - innovation driver by developing and providing energy - efficient drives. Since 2006, these are used as standard in all machine series of the Zhafir and Haitian brands.

In the future, Haitian will intensify the development of industry - oriented and sustainable solutions. With the European premier of the Haitian Mars K Series, Haitian shows a machine not only ready for fast cycles, but also an effective solution for the processing of recycles and sustainable materials.

THE K2022 EXHIBITS AT A GLANCE

Medical: An electric Zhafir Zeres Med Series with 1,200 kN and medical package, will demonstrate an economical cleanroom solution made from PP with a laminar flowbox from Max Petek.

Commodity: An electric Zhafir Zeres Multi Series with 3,000 kN, presented as an R-version (piggyback) will be integrated into a production cell with in-house robotics of the Hilectro brand. The ZE-M produces a tape measure housing made from ABS/TPE.

Automotive: The electric hybrid Zhafir Jenius Series with 3,600 kN, is producing an automotive part that is removed with a "Success 33" from Sepro.

Logistic: A servo - hydraulic Haitian Jupiter with two - platen technology and 4,500 kN produces a fruit box made from a material compound HDPE and TetraPak recyclate. The application is integrated into a manufacturing cell with in - house Hilectro robotics.

Packaging: The servo - hydraulic Haitian Mars K Series with high injection performance of up to 1,000 mm/s is celebrating its premiere in Europe. It will produce a food container with IML, integrated into an automation system from Hilectro.

(Source: POLYMERS Communique - e - Bulletin - 16th August, 2022)

Colines Is Putting On an Unprecedented Show At K - 2022

COLINES is ready to take on to the upcoming "K" show in Düsseldorf (October 19th-26th): the Italian company's booth will be bigger than ever, about 700 sqm. COLINES will be showcasing a cast extrusion line in operation daily and further technology solutions

"We can't wait to meet all our valued customers and partners – said Anthony Michael Caprioli, COLINES' CEO and Commercial Director – in such a captivating and prestigious event. It's not time yet to unveil our programs, but we are confident that people will appreciate our efforts and will enjoy the show we will be putting on. We will be very happy to share with our visitors all of our latest technical developments, including some revolutionary automation solutions. Our extrusion lines are getting smarter and smarter thanks to their dramatically improved user-friendliness, which makes it easier to get the most suitable film for our customers' needs".

"We are looking forward to enjoying the new edition of K-show. It will be a great chance for us to show something extremely innovative and share with our customers all the latest news and developments in extrusion, showing the pure scope of our potential" said COLINES' Marketing & Communication Director and Sales Area Manager, Gabriele Peccetti. Stay tuned! Follow our social media and news: we will soon unveil everything.

Ocean - Bound Plastics: Game Changer Sustainable Material

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Waste plastics that would otherwise end up in the ocean are being repurposed for packaging and other potential end - use products, says Angelica Buan in this r eport

According to the Ellen MacArthur Foundation, by 2050, the amount of waste plastic in the

oceans will have surpassed the 895 million tonnes of fish. Given the amount of poorly managed plastic waste in the environment, this prediction is not exaggerated.

Single-use plastics are estimated to have tripled during the pandemic, and waste management has remained largely unsustainable. This risk can be mitigated by shifting to a circular economy and abandoning the traditional linear "take-make-dispose "model.

Opportunities to repurpose plastic waste into high value products are ingrained in a circular economy. Ocean - bound plastics (OBPs), which are waste plastics that may end up in the ocean, are gaining traction in a variety of consumer applications.

They are typically found within 50 km of coastlines where waste management is either lacking or ineffective, with around 80% ending up as marine litter. More than 11 million tonnes/year of plastic enter oceans, according to the Ocean Conservancy and the Pew Research Center, and by 2040 the rate could triple.

Asia's pursuit for a circular economy

Asia is a major hotspot for plastic waste leakage into the ocean. Every year, more than half of ASEAN produces over 31 million tonnes of plastic waste. Meanwhile, because of their shared river systems, connected coastlines, and international trade in plastic products and waste, national efforts by these member states to combat the risk of marine litter have not yielded significant gains, according to a 2021 statement by the World Bank on the ASEAN regional action plan to tackle plastic pollution.

Despite this, the region continues to develop its circular economy strategy, improve its waste management systems and increase its adoption of biodegradable materials. According to the Alliance to End Plastic Waste, investments in Asia are also critical to assisting the region in its transition, with an estimated US$1.2 trillion required for the switch to a circular economy.

Alliance, a non-profit organisation that brings together government, companies and community to end plastic waste in the environment, stated, “Investment into a circular economy for plastic is vital to facilitate sustainable development in Asia, which is home to 60% of the global population.” Against this backdrop, Alliance is leading global and regional efforts to eliminate plastic waste by catalysing investments and forming collaborative partnerships.

Ocean-bound plastics, which are typically found within 50 kilometers of coastlines, are gaining popularity in a variety of consumer applications

The Alliance Prize in Circular Solutions for Flexibles is one of its new initiatives to boost the circular economy in the region. Its goal is to find new ways to improve the collection, processing, and recycling of flexible plastics found in household waste, which are one of the most difficult materials to process and recycle. The prize will award US$3 million to one winner to help them develop a commercially viable solution that can be scaled widely.

In addition, the winner will gain access to valuable mentorship opportunities and expertise from across the plastics value chain. Meanwhile, Alliance and Lombard Odier Investment Managers have teamed up to launch a US$500 million circular plastic fund as part of their ongoing efforts to support the transition to a circular economy for plastic.

The fund, according to Alliance, will target institutional and other accredited investors for scalable solutions to remove plastic waste from the environment, increase recycling and drive a global circular economy for the plastic value chain.

Conquering waste plastics through communities

OBP's story does not end where the oceans and the shore meet. In fact, the devastation begins when these waste plastics degrade when exposed to salty water and sunlight within a few days, rendering them largely unsuitable for recycling, according to Prevented Ocean Plastic (POP), a brand by UK-based Bantam Materials, which recycles plastic collected from coastal areas. The programme engages communities to collect waste plastic bottles that could end up in the ocean. The collected plastic bottles are delivered to local collection

facilities for payment, where they are sorted and pressed before being transported to plastic recycling plants.

Prevented Ocean Plastic, a project of Bantam Material, involves communities in collecting waste plastics, which are then processed into raw material flakes or pellets in accordance with US and European standards

Plastic waste is washed, sanitised, and processed into raw material flakes or pellets at the factory, all in accordance with European and North American quality standards. The programme, which to date, has recycled over 1,000 tonnes of these waste materials ensures that the recycled plastic has certified traceability from coastline collection until it becomes sustainable recycled packaging used by supermarkets and global brands.

Raising standards of OBPs

Bantam Materials's POPs are made on an industrial scale from recycled plastic PET bottles (rPET). As part of its goal to raise standards for recycled packaging products, the company is the first recycled plastic supplier to join the Ethical Trading Initiative (ETI), an alliance of companies, trade unions, and non - governmental organisations that promotes worker rights around the world.

Since 2005, Bantam has paid for the recycling of over 10 billion bottles and by 2020, it expects to have delivered over 10,000 tonnes of prevented ocean plastic into the market, with plans to expand further.

Similarly, OceanCycle, a social enterprise focusing on reducing ocean plastic pollution, and UL, a US global safety certification company, have formed a partnership to raise OBP standards and ethical sourcing criteria. The partnership is expected to improve industry standards by establishing “new social standards, ethical sourcing criteria, third-party, independent validation of all recycled ocean-bound plastics, and clear definitions of ocean - bound materials and standards for where coastal collection should take place”.

Both companies will tap their expertise in ocean plastics recycling and certification to promote more responsible sourcing, concentrate efforts and resources on countries and coastal regions most vulnerable to ocean plastic pollution, and expand the market for ethically sourced OBPs.

Accordingly, recycled OBP standards promote genuine transparency, traceability, and accountability. The collaboration of UL and OceanCycle has provided fully independent, third - party certification of OBP recycling supply chains, assisting in ensuring that standards meet international quality, ethical, environmental, and labour requirements. Purchasers of OceanCycle Certified (OCC) materials have end - to - end traceability, from bottle collection through manufacturing.

The partners said that they are working with other industry leaders to ensure that these new standards are recognized and followed. They are also focusing on improving market access for products made from OBPs, as well as assisting businesses in using more sustainable, responsibly sourced, recycled materials in their products.

Picking up steam in the packaging industry

The market for recycled plastic has grown as consumers demand more environmentally friendly products, and is forecast to exceed 8% CAGR between 2022 and 2026, according to Fairfield Market Research. It is expected to reach over US$30 billion in 2026, up from US$19.5 billion in 2019.

The value of recycled plastics is too obvious to ignore, and its potential to reach new markets and expand into new applications bodes well for industries focusing on OBPs. Envision Plastics, a US-based producer of PCRs, aims to remove 4,460 tonnes of plastic from the oceans over the next two years. Envision's OBP uses the company's global supply chain and manufacturing expertise to create a resin that can be used in a wide range of HDPE plastic applications. Envision is joining forces with local communities in high-risk areas around the world to recover plastic before it enters the ocean.

The company says it has developed a comprehensive guide to assist communities in

implementing a process for collecting and shipping this material to Envision processing facilities. Accordingly, these policies are designed to ensure that everyone benefits from the process, including customers and, ultimately, local communities. Many of the same rigid plastic packaging applications as traditional post - consumer resin can be used with Envision's OBPs. Furthermore, they can be further processed into natural and mixed colour, as well as the latter's proprietary materials including Prisma and Deodorised Resin.

Collaboration to advance OBP

Using more recycled plastic content is an effective way to "close the loop" in the packaging segment. In this regard, supermarket chain Lidl has succeeded in integrating sustainability into its product by introducing what is claimed to be the supermarket's first OBP-based packaging in 2020.

The initiative was said to have prevented over 60 tonnes of plastic from entering the ocean each year, the equivalent of 2.5 million plastic bottles. The packaging was used on 13 different types of fresh fish, including white fish and salmon. This new packaging forms part of the company's initiatives to ensure 50% of packaging is made from recycled materials, and make 100% of own brand packaging widely recyclable, reusable or refillable by 2025.

The packaging, which was created in collaboration with Copernus, Sharpak, and Bantam Materials, is made of 80% recycled content and a minimum of 30% OBP. Sharpak, a packaging company owned by Groupe Guillin, produced Lidl's new fish trays. In a similar development, AVI Global has started offering rPET packaging made with verified OBP. The certified ocean-bound PET sheet and thermoformed packaging provider has been accredited as meeting the requirements of French NGO, Zero Plastic Ocean's Ocean - Bound Plastic Recycling Subprogram, developed in collaboration with Control Union, an international certification group.

By 2025, AVI Global expects to collect, recycle, and convert millions of discarded ocean - bound PET bottles into valuable rigid packaging offerings through partnerships with India's leading OBP certified waste-management networks.

AVI claims that it can provide rPET packaging, including food - grade, with varying amounts of postconsumer OBP content ranging from 30% to 100% of verified rPET sheets, depending on the product application.

Meanwhile, Sabic, a Saudi chemical manufacturing company, has collaborated on a project with value chain partners to assist UPM Raflatac in the launch of the world's first OBP-based label material. UPM Raflatac's new Ocean Action label is made using Sabic's certified circular PP based on advanced OBPs. The label materials are marketed under the UPM Raflatac Ocean Action trademark.

The material is a simple drop - in solution designed specifically for food and cosmetics end-uses, according to UPM Raflatac. It performs identically to current fossil - based labels. The OBP used in the project is recovered by HHI, a Malaysiabased recycling company that converts OBP into pyrolysis oil, which Sabic uses as an alternative feedstock to make certified circular PP polymer and Taghleef processes into film.

Zero Plastic Oceans and Control Union have certified the OBP's sustainable sourcing, proper collection, and management. These label materials are ideal for fast –moving consumer goods, such as household goods, personal care, packaged foods, and beverages, and are available in White and Clear Top Coated PP films with RP37, Rf37, and RP74 adhesives and PET 23 PCR and glassine liners.

The switch to the OBP material solution required no changes to the film and label material manufacturing processes because Sabic's certified circular PP performs similarly to comparable fossil - based virgin PP, according to the company.

(Source: Angelica Buan Plastic & Rubber Asia)

CIRCULAR ECONOMY/ BIO-PLASTICS/ RECYCLING

Bobst Announces Collaboration to Recycle Multilayer Laminates

Under the European Green Deal, all packaging produced in the European Union must be made reusable or recyclable by 2030. Swiss packaging machinery provider Bobst has announced a strategic partnership to recycle polyethylene terephthalate (PET) based multilayer laminates used for thermoformed food trays.

The company has collaborated with barrier film consultant Evertis and industrial adhesives specialist BASF to support recycling company Sulayr. The companies will combine their knowledge of the packaging value chain in their approach to the closed - loop recycling of PET - based laminates.

They aim to help Sulayr comply with the European Green Deal, which requires all packaging produced in the European Union to be made reusable or recyclable by 2030. This presents a particular challenge for multilayer packaging laminates, whose layers must be separated before they can enter the recycling stream. Sulayr has commercialised a multilayer recycling process that achieves closed-loop status and allows PET to be reused with 'virtually zero waste'. This process is based on a multilayer film produced by Evertis, which includes PET and polyethylene (PE) layers laminated on a Bobst coating system using BASF Epotal water - based adhesive.

The multilayer films can be used for a number of packaging applications such as thermo-formed food trays. After they are used, the waste is delivered to sorting facilities and can then be used as raw material in a closed-loop cycle.

After separating the layers, Sulayr prepares the PET for re - use before it is delivered to Evertis and other film producers, who can restart the cycle.

Bobst said in a statement: “While a circular economy practice for packaging materials with PET content already exist, the process can be improved to become more practical and effective, if the whole value chain works together to make separation of layers easier.

“Seen as an important step towards universal recycling of PET, enabling its continued use in a Green Deal - compliant packaging economy, the process can apply to both post-consumer and post - industrial waste, meaning it has enormous potential to transform the entire PET - based packaging use model.”

Cyclyx Announces New Hampshire Recycling Lab

Cyclyx has announced the opening of a new plastics testing laboratory location in Portsmouth, N.H. Cyclyx is an industry consortium created by the recycling company Agilyx in 2020, with a mission to increase the recyclability of plastic from 10% to 90%.

The new lab will allow Cyclyx to test and qualify significantly greater quantities and a broader range of qualities of waste plastic. These testing protocols are necessary for gaining ISCC plus certification for the various sources of waste plastic. The testing will also inform how these plastics are sourced and processed for a wide range of mechanical and advanced recycling applications.

The growing database of waste plastics will allow Cyclyx to target plastic previously considered too distressed to be successfully recycled. These will be included in blends customized meet customers' specifications. By qualifying and including more waste plastics, Cyclyx will be able to maximize availability and lower the cost of its waste plastic feedstock used for either mechanical or advanced recycling applications.

"The new lab will increase our testing and chemical characterization capacity for waste plastics which will ultimately be blended for use in both advanced and mechanical recycling applications, allowing us to deliver ISCC plus - certified recyclate to customers all over the world," said Joe Vaillancourt, CEO at Cyclyx.

Pepsico Extends Use of Ubq™ From Logistics Pallets to Point Of Sale in New Effort to Unlock Sustainability Across Supply Chain

UBQ Materials, climate tech developer of advanced materials made from waste, announced today that PepsiCo is expanding its use of UBQ™ across its supply chain with the launch of eco - friendly Lay's display stands, "Made with UBQ™," throughout Europe.

Following PepsiCo's successful pilot incorporating UBQ™ to reduce the carbon footprint of shipping pallets, the company is deepening its collaboration with UBQ in additional categories across the supply chain. The new Chips displays will be made in part with UBQ™ substituting conventional oil - based plastics.

UBQ™ is a bio - based thermoplastic, made from 100% unsorted household waste, including all organics. Use of UBQ™ diverts waste from landfills and incineration, preventing emissions from being released into the environment. For every ton of UBQ™ produced, up to 12 tons of Co_2eq are prevented from polluting the environment.

"Our goal is to transform our entire supply chain to tackle the sustainability challenges the world faces. UBQ Materials' waste - based thermoplastic reduces landfill waste, prevents emissions, and takes us towards circularity, which is why we are working towards scaling use of UBQ™ globally," said David Schwartz, VP, PepsiCo Labs. "We are putting sustainability and innovation at the heart of our operations. Achieving these goals is integral to the future of our business, our customers, our consumers and the planet."

PepsiCo's technology venture arm, Pepsi Labs, identified UBQ Materials as an anchor solution supporting PepsiCo Positive (pep+) transformation, which places sustainability and human capital at the center of how it will create growth and value.

"We are eager to extend implementation of our advanced material into new products and markets," said Albert Douer, Co-CEO and Chairman of UBQ Materials. "PepsiCo Labs plays a critical role in supporting Pep+, prioritizing innovations that minimize the company's environmental impact. The climate crisis demands immediate action, and this collaboration is one example of how corporations can make significant change through simple substitutions."

Following a round of investment led by TPG Climate Rise, UBQ Materials is expanding globally with a large - scale facility and state of the art lab in Bergen Op Zoom, Netherlands, enabling the advanced materials company to further localize waste to production cycles across Europe.

Along with five other solutions innovators, UBQ Materials was recently selected to advance PepsiCo's sustainability agenda, as the company works to reduce Scope 1 and 2 emissions by 75 percent by 2030, a goal which is on track according to PepsiCo's ESG Summary released earlier this month.

(Source: POLYMERS Communique - e-Bulletin - 16th August, 2022)

Mondi and Essity Launch Packaging For Feminine Care Range Made From Post - Consumer Recycled and Biomass Balanced Materials

- Leading hygiene and health company Essity has collaborated with Mondi and Dow to improve the carbon footprint of its global feminine care packaging

- Mondi's new mono-material for feminine care range is designed for recycling

- New packaging uses renewable material and a by-product from paper making as well as post-consumer recycled content supporting Essity's sustainability targets

Mondi, a global leader in packaging and paper, has collaborated with Essity and Dow to create new, recyclable secondary packaging for Essity's feminine care products, using renewable materials and post - consumer recycled content that reduces use of fossil - based materials.

Essity's feminine care towels were previously packed in bags that already used 50% renewable materials. Extensive research and testing by Mondi however, resulted in the recommendation of a new solution that aligns with Essity's packaging goals: to work towards 100% recyclability and to use up to 85% biomass, renewable or recycled material in all bags where up to 25% are recycled plastics

The new packaging contributes to these sustainability goals by using a renewable material and by - product from the paper making industry that is produced from circular feedstock based on the ISCC (International Sustainability & Carbon Certification) mass balance approach. The innovative packaging also contains mechanically recycled content from post - consumer material. Mondi worked with long - term supplier Dow and other companies along the value chain to find the most suitable resin formulation for this solution. The end result is an extruded film that is printed on and converted into a bag.

Providing the same high-level of protection as the previous alternative, the solution prevents moisture and light damaging the feminine care range, has strong sealing properties and delivers outstanding print quality to maintain on - shelf appeal for Essity's European recognised brands, such as Bodyform, Libresse, Nana and Nuvenia.

The challenge was to find the best combination of renewable and recycled content that maintains product quality and the production efficiency already enjoyed by Essity. We tested several options until we found the most suitable solution. Working in collaboration with Essity and Dow validates our EcoSolutions approach; we go back to the start and ask the right questions to ensure we create the best possible solution for our customers.

Avery Dennison Becomes First Label Manufacturer to Enable Rigid Plastic Recycling Across Its Film Portfolio

As brands and converters seek solutions to increase the circularity of plastic packaging, Avery Dennison Label and Packaging Materials has removed a key obstacle to plastic recycling with the introduction of next generation AD CleanFlake™ technology. Already a leader in enabling recycling for PET plastics, this breakthrough innovation now extends the benefits of CleanFlake™ technology to our core film portfolio, combining with our HDPE recycling compatibility. With the next generation AD CleanFlake™ Portfolio, Avery Dennison becomes the first label manufacturer to enable rigid plastic recycling across its film portfolio, providing brands and converters solutions that support recycling processes without compromising performance to meet sustainability goals.

AD CleanFlake™ technology is recognized by the Association of Plastic Recyclers, European PET Bottle Platform and RecyClass, for enabling recycling by working with the rigid plastic recycling processes to either remove cleanly (PET) or stay with the package (HDPE), resulting in good quality flakes, the conservation of virgin resources, and less landfill waste. The AD CleanFlake™ Portfolio delivers these benefits for both PET and HDPE plastics, creating the potential to divert over 200 billion rigid plastic bottles and containers from landfills.